SUPPLEMENT

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The Potential Beneficial Effects Of Hand And Foot Bathing On Vital Signs In Women With Caesarean Section

Abstract

Purpose: Hand-foot bathing therapy is a simple technique to induce sensations of comfort and relaxation. The aim of this study was to examine the effect of hand and foot bathing therapy on vital signs in women following caesarean section.

Methods: Participants were sixty women with caesarean section. They divided to two groups: (1) study group (n=30, median age=26.67 years, SD=2.04); and, (2) control group (n=30, median age=27.75 years, SD=1.09). Vital signs were measured for 5 minutes before and for 30 minutes after the hand and foot bathing therapy.

Results: Pain score, systolic and diastolic blood pressures and heart and breath rates decreased after hand and foot bathing therapy. Differences between before and after therapy were statistically significantly.

Conclusions: These results indicate that hand and foot bathing therapy might be helpful to restore the vital signs in post-operative patients by decreasing anxiety and psychological stress.

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Foot bathing is a simple technique that is used to induce sensations of comfort and relaxation [1]. Wrapped warm footbath techniques were perceived as suitable methods for relaxing bedridden palliative care patients. The procedure involves gently immersing a patient's legs and feet (from the knees down) in a basin of warm water [2, 3].

In a heart rate variability study [1], it is suggested that warm water footbaths lead to relaxation in accordance with an increase in parasympathetic response and a decrease in sympathetic response, serum IgA elevation and cortisol reduction. These findings indicate the potential benefit of conducting further tactile trials using multiple parameters of measurement drawn from the differing clinical fields of psychoneuroimmunology, neurophysiology, psychology and thermal physiology.

In a recent study, it has been reported that left foot reflexological treatment resulted in a decrease in cardiac index. The researchers concluded that reflexology massage applied to the upper part of the left foot may have a modest specific effect on the cardiac index of healthy volunteers [4]. In a reflexology and heart rate variability (HRV) study, almost all HRV parameters increased and heart rate (pulse) and LF/HF ratio decreased following reflexological therapy in healthy volunteers. They suggested that reflexology might induce a state of balance between sympathetic and parasympathetic

systems and might be helpful to prevent possible cardiac arrhythmias [5].

We measured the vital signs and the pain score before and after hand and foot bathing therapy of 10 minutes in women who had recently undergone a caesarean section.

Methods

Subjects

Participants were sixty women with recent caesarean sections. They were divided to two groups: (1) study group (n=30, median age=26.67 years, SD=2.04) and (2) control group (n=30, median age=27.75 years, SD=1.09). Vital signs and the pain score were measured for 5 minutes before and for 30 minutes after the hand and foot bathing therapy. Exclusion criteria were health problems such as psychiatric, respiratory, metabolic, cardiac, or autonomic nervous system diseases that might change the vital signs and the pain score. The Ethical Committee of the Faculty of Medicine of the University of Turgut Ozal approved this study.

Hand and Footbath Therapy

Subjects' hands and legs and feet from the knees down were gently immersed in a basin of warm water of 36-37 °C for 10

TABLE 1. Vital signs before and after hand and foot bathing therapy in the study group (post-Caesarean section)

Parameters	Before	After	t	p
Pain score	3.43±0.68	1.83±0.75	12.11	0.00
Systolic pressure (mmHg)	117.33±8.28	108.0±6.1	5.64	0.00
Diastolic pressure (mmHg)	70.33±6.15	66.67±5.47	2.79	0.009
Heart rate (/min)	84.53±5.22	80.27±4.5	4.21	0.00
Breath rate (/min)	18.27±1.36	17.8±1.22	2.54	0.02

TABLE 2. Vital signs before and after hand and foot bathing therapy in control group.

Parameters	Before	After	t	p
Pain score	3.43±0.68	3.03±0.72	3.53	0.001
Systolic pressure (mmHg)	119.33±6.91	116.67±8.84	2.50	0.02
Diastolic pressure (mmHg)	73.0±8.77	71.67±7.47	1.28	0.21
Heart rate (/min)	85.87±4.55	84.8±4.63	2.11	0.04
Breath rate (/min)	19.27±1.11	19.4±0.93	0.2	0.42

minutes. All therapies were applied in morning between 9:00-10:00 am.

Results

The pain score, systolic and diastolic blood pressures, heart and breath rates decreased after hand and foot bathing therapy compared with before therapy in especially study group (see Tables 1 and 2). Differences between before and after therapy were statistically significantly higher in study group.

Discussion

These results were consistent with a recent study [1] in which the immediate effects of wrapped warm footbaths on the autonomic, neuroimmunological and psychological activities in healthy middle-aged volunteers were examined. Serum IgA and serum cortisol levels showed that both lying down and footbath resulted in a relaxed state. They concluded that footbaths can be an effective method of relaxation, since it induces both a significant increase in parasympathetic activity and significant decrease in sympathetic activity. Also, it was claimed the beneficial effects of footbaths in controlling spasticity after stroke [6].

As a consequence, foot bathing therapy is a noninvasive and harmless therapeutic application, and it can be confidently used to restore the vital signs and to decrease the postoperative surgical pain in patients with caesarean section.

References

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