

P9. Basic Study of Hot Packs Using Deep Ocean Water

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1. Introduction

Symptomatic therapy is universally used for all patients and can be implemented simply even without the help of a medical staff. A widely applied one is PAS originated in German word pasta, which means ointment or toothpaste, not a food, in Germany. The name of the product 'PAS' released in Japan was made by shortening the German word pasta. The official name is 'pasting agent', which is called 'Plaster' or 'Cataplasma' in English.

This study conducted experiment after setting a hypothesis that hot packs added with deep ocean water improves heat conduction effect, persistence, and stability compared to the cataplasmas currently used by the public.

2. Methods

Since hot packs can be easily used, are inexpensive, and have the advantage of being usable for a long period of time, in this study, an experiment was conducted to compare the use of hot packs with that of general cataplasmas.

Hot packs are known to relax tense muscles and help blood circulation thereby helping the relief of neuralgia and muscular pain. Deep ocean water used in hot packs plays the role of relieving inflammations by helping increases in thermal persistence and stability in skin contact.

After explaining the purpose of the study to 10 persons who are currently working at work places that require physical labor, agreement was obtained from them and samples were provided to them to conduct a control group analysis. The selection criteria are as follows.

- (1) Those who have not been contraindicated against to hot pack
- (2) Those who have no abnormality in cognitive functions and senses
- (3) Those who understand the contents of the questionnaire and can smoothly communicate.

After conducting individual interviews, preliminary questionnaire items regarding pain regions, pain levels, and degree of physical function levels, etc. were prepared.

Experimental treatments were implemented a total of four times per person around joints, one time each on both wrists and both knees.

The following experiment compares the thermal persistence of hot packs.

Experimental group: concentrated deep ocean water, total quantity 200cc

Control group: distilled water, total quantity 200cc

Since the effect of hyperthermia appears when the

treatment persisted for about 20 ~ 30 minutes at 40 ~ 45 ° C, the hyperthermia was applied for 20 ~ 30 minutes.

The concentrated water and the distilled water were heated and absorbent cotton was put into them for 5 minutes to make one-time hot packs. The hot packs were applied to the wrists and joints and a questionnaire survey was conducted to compare the effects with the effects of general hot packs. Items such as thermal persistence, fatigue recovery, and pain relief were surveyed with a scale consisting of 'not at all effective', 'seems to be a little effective', 'effective although not at a satisfactory level' and 'effective satisfactorily' to figure out samples with high final effects.

3. Conclusion

The results of the study are as follows.

Temperatures were measured 4 times in total and the results indicated that the control group had the largest temperature difference when the time passed from 5 to 10 minutes and the temperature was recorded as 39 ° C, 40 ° C, and 40 ° C when 25 minutes passed. Therefore, the heat duration was measured as 25 minutes.

In the results of the questionnaire survey, for the items 'fatigue recovery' and 'pain relief', the answer 'not at all effective' were the highest as 80% and 90%, respectively, and the frequencies of the answer 'seems to be a little effective' were 20% and 10%, respectively.

In the case of the concentrated water used as an experimental group, the temperature difference was the largest as 13°C when the time passed from 5 to 10 minutes as with the control group but the temperature was maintained at about 42°C even when 25 minutes passed and was recorded as 39.5°C when 30 minutes passed. For the questionnaire items 'fatigue recovery' and 'pain relief', the frequency of the answer 'seems to be a little effective' was the highest as 60%, that of the answer 'not at all effective' was shown to be 30%, and that of the answer 'effective although not at a satisfactory level' was shown to be 10%.

The survey indicated that the use of concentrated water in hot packs produced more effects in pain relief, fatigue recovery, and thermal persistence than the use of distilled water.

Therefore, it was identified that hot packs using deep ocean water can be used as a new nursing intervention to alleviate pain and improve functions in daily life.