

Doctoral Thesis in 2022 (Abstract)

Basic Research on touching methods that bring subjective comfort and relaxation based on characteristics of the skin: As a preparation to introduce touching to in-patients in hospital

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Introduction

For patients who are under significant stress due to illness, injury, or hospitalization, providing relaxation effects through touch is an important way to help them improve their natural healing abilities. However, in actual medical practice, the frequency of touching patients is decreasing. Therefore, a literature review was conducted to understand what was known about touching by medical professionals and to examine the reasons for the decrease in touching in medical settings. The opportunities for medical care staff to offer touching are decreasing, presumably, because the methods of touching may not be appropriate for the field, and also there is a lack of knowledge about the effects of touching. According to the study, it was revealed that the most commonly touched areas were the lower legs and hands. Therefore, the effects of touching these areas were examined. As basic research to introduce touching to the medical field, this study focused on the touches on lower legs and hands and a touching method that could be done easily and in a short time was researched. In order to enhance relaxation, achieving subjective feelings of comfort is the most important factor. Therefore, methods that would induce subjective comfort were examined in this study. Human skin has two types. One is with hair and the other one is without hair. Therefore, in this study, the most optimum touching method was examined depending on the characteristics of the skin, which is with and without hair.

Chapter 2. Purpose and structure of this study

First, in Chapter 3, in order to examine an optimum touching method for lower legs and hands, subjective comfort was chosen to be an outcome index (Experiment 1). Next, the touching method confirmed in Experiment 1 was applied to the lower legs and hands, and the relaxation effect was verified using physiological and subjective indices (Experiments 2, 3). In Chapter 5, a questionnaire survey was conducted to determine how the touching methods which were found to be the most effective in Experiments 2 and 3 were accepted by medical professionals who were currently active in medical fields.

Chapter 3. Examination of the touch to lower legs and hands that brings subjective feelings of comfort [Experiment 1]

In Experiment 1, three conditions of touching, 1) touching only, 2) stroking at a speed of 5 cm per second, and 3) stroking at a speed of 30 cm per second, were performed on the lower legs and hands respectively, and it was examined which touching method brought the strongest sense of comfort. The Visual Analog Scale (VAS) was used as an index of subjective comfort. The results showed as follows. Concerning the lower legs, moving a hand at a speed of 5 cm per second brought the strongest sense of comfort. Concerning the hands, placing a palm of a therapist on a hand of experiment participants brought the strongest sense of comfort. As a result, it was decided to conduct massage at a speed of 5cm per second on the lower legs, and placing a palm on a hand of an experiment participant would be conducted in Experiments 2 and 3.

Chapter 4. Examining the effects of touching on lower legs and hands [Experiment 2, 3]

In Chapter 4, the most optimum touching method attained in Experiment 1 was used on lower legs and hands to examine its relaxation effect. Physiological and subjective indices were used as outcome measures. The heart rate was used as a physiological index for touches on the lower legs and hands. The subjective indices used were scales based on the characteristics of the lower leg and hand, respectively. The effect of contact on the legs was measured in terms of left and right center-of-gravity sensation (Experiment 2). And the degree of pain caused by pressure stimulation of the upper trapezius fibers was measured by VAS to examine the effect of touching a hand (Experiment 3). The results of Experiments 2 and 3 showed that statistically significant changes in physiological and subjective indices were obtained. It was assumed that the touching methods used in these experiments would be effective to bring relaxation effects.

Chapter 5. Research on touching by healthcare professional

Health care professionals including nurses, physical therapists, occupational therapists, and speech-language pathologists were surveyed. The survey consisted of pre-selected questions and open-ended questions. The results showed that both nurses and therapists were aware of the effectiveness of touch in alleviating various symptoms of patients, based on their experience in the medical field. In addition, the touching methods examined in this study were easy to implement, did not require special skills, and did not take much time to implement. In addition, health care providers recognized that touch was effective in supporting patients. Therefore, the touching method devised in this study has the potential to be applied in the medical field.

Chapter 6. Discussion/Conclusion

This is a preliminary study to examine the effects of touching methods based on the characteristics of the skin. Their relaxation effect was examined assuming that the methods would be used in the medical field. It was found that touching was most frequently conducted on lower legs and hands in the medical fields. Therefore, touching the lower legs (with hair) and the hands (without hair) were examined in this study. Subjective feelings of comfort were used as an index, and both physiological and psychological effects were measured. As a result, it was found to be most effective to conduct touching lower legs at a speed of 5cm per second. Concerning hands, it was most effective to just place a palm on the hand of the experiment participants. As a result, it was shown that the touching method devised in this study could have a relaxation effect. Furthermore, a questionnaire survey was conducted on nurses and therapists in order to verify that the touching method which was devised in this study could be actually used in the medical field. As a result, it was suggested that the touching method devised in this study would be easy to be applied by medical professionals. The findings of this study on touching will provide valuable basic data for the future use of touching in the medical field.