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The Use of Thai Musical Instruments as a Tool in Music Therapy with Akaboshi's Musical Therapy Method

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Abstract

The purpose of this study was to compare the use of Thai instruments to the instruments employed in the Japanese Akaboshi method of music therapy. Thai musical instruments were used as a tool in the rehabilitation of one group of handicapped people. Another group was given the instruments traditionally used in conjunction with the Akaboshi method.

Differences between the two groups in terms of obtained muscle strength were measured. The Manual Muscle Test (MMT) of the Lovett, Medical Research Council was used before and after the experiment. The results showed that the majority of subjects showed greater improvement of muscle strength after using Thai musical instruments when compared to subjects in the traditional Akaboshi group. There were however, some drawbacks in the use of Thai instruments due to their size and weight. Some instruments were found to be unsuitable for certain muscle groups and some types of disabilities. The results of this small experiment support the hypothesis that Thai instruments could be used in lieu of those in the original Akaboshi methodology.

Introduction

Akaboshi is one of the most well-known Japanese music therapy methods. This form of music therapy has been widely accepted in Japan to rehabilitate the handicapped. Akaboshi Music Therapy was originated in 1974 by Takeomi Akaboshi. The founder set out to rehabilitate patients who had muscle disorders by first incorporating the use of the guitar. Akaboshi trained music therapists in the Higashi Hospital with his method and the medical doctors supported him by reporting their patients' conditions after utilizing his techniques. In 1994, Akaboshi did research using his therapeutic methods to reduce the level of stress among the handicapped people. Later on, he also performed research to help different types of disabled persons in Japan including persons with Alzheimer's disease. Akaboshi music therapy had been introduced to Thailand 17 yrs ago by Dr. Sek Aksaranukraw, the Director of Sawangkaniwas Rehabilitation Center. When the author visited the center she was inspired to consider replacing instruments used in Akaboshi's music therapy with Thai traditional ones since they are very close to Thai life, easy to listen to, convenient and inexpensive to acquire. She also felt that music could be used in other ways beyond just the entertainment of people.

The Akaboshi method can be divided into 3 main activities:

1. Hand moving practice. This technique aims to stimulate the brain by using hand movements in different directions with both hands together and alternatively.
2. Breathing practice. This practice involves hand movements to measure the length of each

breathing cycle. There are various patterns of breathing techniques in Akaboshi's method which are applied to different types of patients in order to help rehabilitate a particular abnormal breathing challenge caused by their specific handicap.

3. Rhythmic practice. By playing along with music and rhythm with their music therapy instruments, the patients can exercise their hands, arms and other parts of their bodies all at the same time. It is believed that the techniques of rhythmic practicing can help patients to understand the natural rhythm of everyday activities.

The hypothesis in the research presented here was that since the Thai people have a greater familiarity with Thai musical instruments (both in sound and function) that using Akaboshi's methods with Thai instruments might be more effective for them than Japanese instruments.

Methods and Materials

Participants in the study were physiotherapy patients in the Thai Red Cross Association's Sawangniwadse Rehabilitation Center. Forty-two patients were selected and assigned to two groups. All patients were in a weak condition on the left or right half of their bodies. The music therapy activities began after physicians decided that the patients had reached their optimal level of recovery. Music therapy was administered one hour per day, every day for 2 months.

One group of patients was subdivided into three smaller groups and treated with Thai instruments (see figure 1):

Ranath thum group - 7 patients

Anglung group - 7 patients

Grub phoung group - 7 patients.

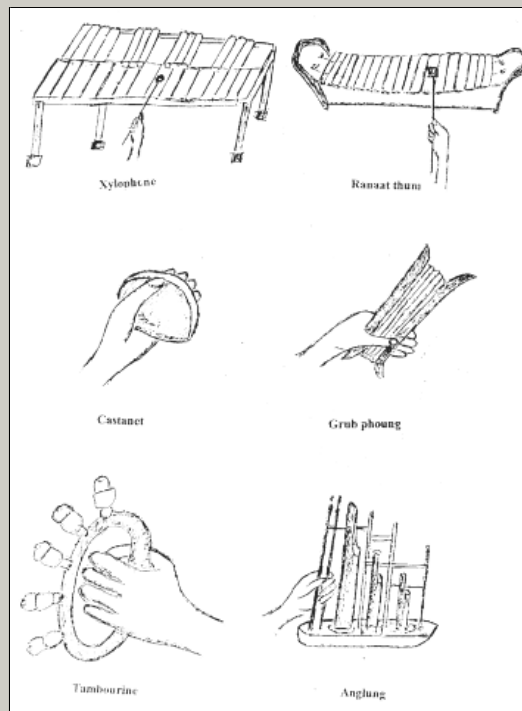
The other group was also divided into three, with the corresponding musical instruments traditionally used in Akaboshi therapy (see figure 1):

Xylophone group - 7 patients

Tambourine group - 7 patients

Castanets group - 7 patients.

Figure 1. Instruments used in the study.



Participants were assigned to different groups on the basis of the fit between their physical condition and the nature of the instrument. Muscle strength was measured before and after

being trained with Akaboshi's method. The treatment consisted of the three main activities of Akaboshi MT: hand practice, breathing practice and rhythmic practice. The number of patients who had improved (NPI) their muscle strength after being trained with Akaboshi's music therapy was recorded. A comparison was then made between the two groups.

After the music therapy treatment the patient's muscle strength was tested at several locations with a hand dynamometer. The Manual Muscle Testing (MMT) method was applied to measure the contraction of individual or groups of muscles. The patient's full range of motion was tested in the following categories: shoulder flexion, shoulder extension, shoulder adduction, shoulder abduction, elbow flexion, elbow extension, wrist flexion, wrist extension, finger flexion, finger extension.

Results

Ranaat thum - xylophone

It was found that the NPI in the group that played the ranaat thum instrument was higher than that of xylophone group, except for the Finger extension in one patient. The most obvious difference of NPI was Wrist flexion. Here, the NPI of the ranaat thum group was higher than in the group playing the xylophone (four patients). The less obvious results were the Shoulder extension and the Shoulder abduction groups which were higher than those of the xylophone group by three patients. We found that the NPI of Shoulder extension in the xylophone group was 0, while in the Ranaat thum it had improved in four patients. The NPI in Elbow extension was equal in the two groups. Only in Finger extension, the NPI of the ranaat thum group was lower than that of the xylophone. The assumption was that the bars of xylophone were smaller in size than the ones of ranaat thum. This caused patients to use more strength to hold the mallets in order to hit the right notes on the instrument. As the bars of ranaat thum were bigger, using it to perform was easier for the patients because they did not have to be very attentive and did not have to use much strength to hold the mallets in order to hit the right bars. The explanation of the results for the equal Elbow flexion was that the performance of xylophone and ranaat thum both involved the lifting up of the mallets and hit the bars in the same manner, so there was no exact difference in flexing elbows. Overall, the results showed that that the therapy by Thai musical instrument ranaat thum can improve the patients' muscle strength in eight out of ten (8/10) muscles.

Grub phoung - Castanets

The NPI in the group treated by grub phoung was higher than that with castanets in the following five areas: Shoulder flexion, Shoulder extension, Shoulder adduction, Shoulder abduction and Finger flexion.

The NPI in Elbow extension, Wrist flexion, Wrist extension and Finger extension were lower. For instance, the influence upon Wrist extension and Finger extension appears to be 0. This indicates that the therapy by grub phoung made no positive improvement in flexing fingers. In finger extension the result of NPI appears negative. This indicated that the therapy by castanets made, as well, no positive improvement in flexing fingers. In addition, it was even negative in one patient. This meant the therapy by castanets worsened the condition. There was another observation of the NPI in -flexing, extending and abducting shoulders indicated the positive improvement made by grub phoung therapy.

Anglung - Tambourine

The NPI when using the anglung was higher than that of tambourine in six areas: Shoulder extension, Shoulder abduction, Elbow flexion, Elbow extension, Finger flexion and Finger extension. In these areas, the NPI in Finger flexion and Finger extension were markedly higher. This meant the therapy by anglung was positive in terms of improving the muscles in flexing and extending fingers.

The NPI in the group assigned to the tambourine were higher in the areas of Shoulder abduction and Wrist flexion. This meant the therapy by tambourine was positive in improving the muscles in abducting shoulders and flexing wrists.

The NPI in Shoulder flexion and Wrist extension by anglung and castanets were equally positive in improving the muscles in flexing shoulders and extending wrists.

Discussion

The findings were in accordance with the hypothesis that Thai musical instruments could be substituted for the traditional ones used in Akaboshi's music therapy treatment. However, since this is a preliminary study where the two comparison groups of instruments were not stratified for range of motion, weight, handle size and other confounding factors one cannot make any casual statements about why some Thai instruments showed better NPI for the measured muscle groups. Another study incorporating these concerns would be required to state anything more than the association already described.

The authors however, found some weaknesses in the use of Thai musical instruments which hindered the patients from any significant improvement. The reasons for this weakness were likely the difference between the size, weight and the traditional way of performing.

In the future hopefully, the instruments can be improved by reducing the size, weight and allowing some modification to the traditional method of performing to better match the initial capabilities of the handicapped. These changes will likely allow them to earn much greater beneficial muscle improvement. In addition, this method might be generalized to help other patients who have other areas of weakness besides those distinguished by whole left or right side weakness. Another future area of much interest is determining if there is a role for music therapy in improving brain function of the handicapped.

The improvement of Thai musical instruments to facilitate this type of therapy for physically disabled persons and those who cannot afford the whole medical therapy may not only be a good practical solution, but reflect Thai cultural wisdom as well.

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