1. INTRODUCTION

Everyone has had the experience of relaxing and listening to music or of having their physical movements become easier when accompanied by music. It is generally considered that music has positive effects on the mind and the body. In other words, almost no one is skeptical of the positive effects of music. Actually, we frequently see the phrase “Music is effective for...” in TV, magazines, or conferences.

Has music therapy really taken root in clinical situations? The answer is “no,” at least in today’s Japan. Why? The reason is because today’s music therapy does not fulfill the main principle of medicine, which is that medicine should be practiced based on evidence that is scientifically proven. Not only is there little scientific evidence regarding the benefits of music therapy, but also the methodology used in studies of music therapy often does not follow such a principle. Although music therapists actually feel its efficacy, most health care professionals, including doctors, nurses, and the government officials of the Ministry of Health, Labor, and Welfare who determine the medical systems in Japan, have not. It is of no use to be upset by the lack of understanding of music therapy by medical professionals. Music therapists are responsible for providing proof.

In this review, two famous researchers report the efficacy of music therapy, mainly based on their own studies. All of them based their assessments on the evidence. We can understand how to develop music therapy in the future. With you, I would like to consider the problems of music therapy in today’s Japan and throughout the world.

2. EVIDENCE-BASED MEDICINE (EBM)

2.1. Evidence

“Evidence” means “anything that gives reason for believing something, that makes clear or proves something.” (Oxford Advanced Learner’s Dictionary of Current English). In medicine, the word evidence has a special meaning beyond reason. Evidence means medical and scientific facts that have been proven objectively and universally. Objectivity and universality mean that the same results will be obtained regardless of when, where, and by whom the therapy is carried out, and that its methodology is established. Evidence is the basis of current medicine. The hypothesis that is investigated and proven provides new evidence, and we called such processing research (Fig. 1).

2.2. Evidence-Based Medicine (EBM)

Evidence-Based Medicine (EBM) is the attitude that medical treatment should be decided based on the evidence. Is there medical treatment that is not based on evidence? Yes, there have been such treatments in the past, in an era in which experience, common sense, and expert opinions were regarded as the criteria for treatment selection. The Cardiac Arrhythmia Suppression Trial (CAST) [1] was a clinical trial performed in the 1980s. The CAST made clear the problems of such selection criteria and brought about the opportunity to build the concept of EBM.

The CAST researchers analyzed the efficacy of an anti-arrhythmic drug in patients with arrhythmia after a myocardial infarction to determine whether it decreased the death rate compared with active and placebo controls. Most doctors throughout the world thought that it was appropriate to use an anti-arrhythmic drug to treat such patients. The researchers expected that the death rate would be lower in the patients treated with the anti-arrhythmic drug. However, the results of the trial were astonishing. Quite contrary to the expectation, the death rate was significantly higher in the patients who received the anti-arrhythmic drug than in the patients who received the controls. In short, the treatment based on experience and common sense had increased the risk of death instead of
improving the prognosis. The CAST had a major impact on medical communities. Medical scientists concluded that it was necessary to do assessments using data specific to the treatment that had been regarded as a matter of course, and to accumulate, one by one, scientific facts ascertained as correct (namely, evidence). That was the beginning of EBM. Since then, EBM has been the world standard of medicine.

Only 20% of the treatments today have established evidence. In other words, 80% of the treatments do not. However, it is important to continue to explore evidence on every occasion. An attitude that ignores the evidence will never be recognized in medical situations.

3. EVIDENCE OF MUSIC THERAPY

In the field of EBM, the Cochrane Library [2] gives us the most important and reliable information regarding medical treatments. The Cochrane Library reviews and assesses the results of clinical trials worldwide, mainly randomized controlled trials (RCT). This kind of review is called a systematic review. The systematic review not only shows the results reported in the literature, but also provides qualitative assessments based on the statistics of meta-analysis. The topics analyzed include treatment and prevention in all fields of medicine. The results ascertained as effective in the Cochrane Library are regarded as some of the strongest evidence in current medicine.

Table 1 summarizes the music therapy research results contained in the Cochrane Library in July 2012. Among them, three reports suggested the effectiveness of music therapy, eight reports showed an expected effect in the future, two reports concluded that music therapy has no effect, and eleven reports found that we cannot draw conclusions about efficacy. The systematic review of music therapy dealt with its effects on pain, anxiety, cognitive function, psychiatric symptoms, and quality of life (QOL). The Cochrane Library review suggested that music therapy is effective for alleviating post-operative pain, decreasing anxiety during medical examinations, and improving cognitive function in patients with dementia.

It is noteworthy that eleven reviews, which represent almost one half of all reported, show that it is impossible to judge the efficacy of music therapy. The reasons are as follows: i) no study fulfilled the inclusion criteria, and ii) the low quality of the papers, especially regarding methodology. These two problems are also pointed out in the eleven reviews that suggested or expected the efficacy of music therapy. The authors concluded that, because of the qualitative defects in these studies, high-quality research is necessary to determine the efficacy of music therapy. In short, currently there is no solid evidence for the benefits of music therapy.

4. AWAITING A SOLUTION IN THE FUTURE

Because of the poor quality of the existing evidence, it is difficult for music therapy to be adopted in clinical situations. As the qualitative level of studies of music therapy is relatively low, it is possible that music therapy itself is regarded as unreliable. Despite the lack of evidence, music therapy could attract the attention of medical professionals if music therapists make efforts to improve the evidence. To establish evidence for the efficacy of music therapy, the following five points are indispensable.

4.1. Knowledge of Current Evidence

Therapists should know whether evidence exists for the research they would like to start. Even if there is no evidence, a knowledge and understanding of the literature provide the basis and become the starting point of the research.

4.2. Understanding of Diseases and Symptoms

It is necessary to know the features and symptoms of the disease and the symptom under study. Music therapy is not a cure-all. As a matter of fact, some diseases and symptoms might be a good target for music therapy, while others might not. For example, singing a nursery song could cause regression in some psychiatric diseases. In the description of target diseases, the diagnostic criteria applied to the patients should be shown.

4.3. Appropriate Interventions

The methods of intervention should be appropriate. The therapists have to explain the following points with logical appropriateness: why is music therapy expected to be effective for the disease? What is the advantage of music therapy compared to the former interventions?

4.4. Appropriate Assessment

Assessment of the effects of interventions should be done appropriately. For the assessment, batteries with objective values, used worldwide, and, if possible, already
standardized, are recommended. Changes in mental function and daily life often cannot be represented by quantitative values. For example, the caregiver interview is the most sensitive to changes in symptoms of people with dementia. First, a quantitative assessment should be done, and, for the parts that cannot be shown quantitatively,
a qualitative description should be carried out. The qualitative description exhibits great power when it is coupled with a quantitative assessment.

4.5. Appropriate Discussion

The discussion must expand the evidence point by point. As shown in Fig. 1, research expands the evidence to the area of the hypothesis. We must mention only things that can be stated from results obtained with scientific appropriateness. Otherwise, the discussion is a house of cards that builds one hypothesis on top of another hypothesis.

By accumulating data that fulfill the 5 points mentioned above and by consistently demonstrating an attitude of fulfilling these points, reliance on music therapy and therapists should increase.

5. CONCLUSION

In this review, I presented some evidence of the benefits of music therapy in current medical situations, and I explained the factors necessary to build evidence for it in the future. Though music therapists are the experts in music therapy, their knowledge of medicine is limited. In order to carry out music therapy appropriately in medical situations, study of its efficacy with scientific appropriateness and collaboration between doctors and music therapists are indispensable. Thus, music therapists must obtain respect in the hospital, along with an understanding by doctors of the benefits of music therapy.

In this special feature, two famous researchers describe the outcomes of music therapy. They report high-quality research, and make efforts to expand areas of evidence as much as possible, understanding the limitations of the current evidence. From their descriptions, we will be able to understand the direction toward which music therapy should go. This special feature may be an opportunity to expand music therapy in Japan.

REFERENCES

[1] J. N. Ruskin, “The cardiac arrhythmia suppression trial (CAST),” N. Engl. J. Med., 321, 386–388 (1989).
[2] Cochrane Library, http://www.thecochranelibrary.com/view/0/index.html