

## EFFECTIVENESS OF MUSIC THERAPY TOWARD REDUCING PATIENT'S ANXIETY IN INTENSIVE CARE UNIT

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### ABSTRAK

Terapi musik adalah sebuah terapi kesehatan yang menggunakan musik di mana tujuannya adalah untuk meningkatkan atau memperbaiki kondisi fisik, emosi, kognitif, dan sosial bagi individu dari berbagai kalangan usia. Penelitian ini bertujuan untuk mengetahui seberapa besar dampak terapi musik yang berpengaruh pada perubahan respon fisiologis terhadap kecemasan yang dilihat dari tekanan darah, respirasi dan nadi. Penelitian ini bermanfaat untuk membantu penyembuhan pasien/klien. Selain itu, sebagai bahan informasi akurat untuk profesi keperawatan dan profesi kesehatan lainnya untuk mengimplementasikan terapi musik sebagai terapi non farmakologi. Metode penelitian yang digunakan adalah quasi *experiment* dengan menggunakan *one group pre test* dan *post tes design* tanpa *group kontrol*. Berdasarkan hasil penelitian 90% responden mengalami perubahan penurunan tekanan darah sistol, 95% responden mengalami perubahan penurunan tekanan darah diastole, 60% responden mengalami perubahan penurunan respirasi, 100 % responden mengalami perubahan penurunan nadi. Dari nilai signifikansi hasil uji *Paired Sample t-Test* yaitu 0,000 – 0,002 yang nilainya lebih kecil dari taraf kesalahan ( $\alpha$ ) 0,05 atau dengan signifikansi 95 %, maka hipotesis  $H_0$  ditolak sedangkan  $H_a$  diterima. Kesimpulan penelitian ini adalah terapi musik efektif untuk menurunkan perubahan respon fisiologis terhadap kecemasan yang dirawat diruang ICU-ICCU. Peneliti menyarankan untuk menerapkan terapi musik ini dilingkungan rumah sakit.

**Kata Kunci :** terapi musik, penurunan kecemasan, tanda-tanda vital

### ABSTRACT

*Music therapy is health therapy which uses music as medication in order to increase or repair physical, emotional, cognitive and social conditions on individuals from various ages. This research wants to know the effectiveness of music therapy to reduce client's anxiety by seeing the change of physiological anxiety response from blood pressure, respiration and hearth rate. The research benefit is that music intervention can be used for therapeutic purposes to promote patient/client health and well-being. Furthermore, it can give accurate information for nurse profession and other health profession to implement music therapy as a non-pharmacologic therapy to decrease the level of patient's anxiety during care time in intensive care unit. Method of the research was used quasi experiment by using one group pre-test and post-test design without control group. Based on the result of the research, 90 % respondent experiences reduction change of systolic blood pressure, 95 % respondent experiences reduction change of diastolic blood pressure, 60 % respondent experiences reduction change of respiration, and 100% respondent experiences reduction change of pulse. The significant value of test result of paired sample t-Test showed that 0,000 – 0,002 which is that smaller than mistake level ( $\alpha$ ) 0,005 or it significant to value 95 %, and so that hypothesis of  $H_0$  was refused; whereas hypothesis of  $H_a$  was accepted. Conclusion of this research was music therapy is effective to reduce the change of physiological response toward client's anxiety in ICU – ICCU. The researcher suggests that applying the music therapy in the critical care is useful for patients.*

**Key words:** music therapy, reducing of anxiety, vital signs

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### INTRODUCTION

Anxiety is defined as state anxiety, which has been described as a transitory state of uneasiness or apprehension. It is an ephemeral condition, which occurs as response to a stimulus.

The patient who must be treated in intensive care one of undergoes stress, because of the implementation of nursing process which is done and the pattern of the unit which have more sophisticated instrument in monitoring the patients adequately. Hence, to reduce the patient's anxiety we can give them music therapy. Since, music therapy does not only relaxing effect but it also as non-pharmacological therapy to help the patients. Hence, it can be called as complementary therapy.

Music therapy is a therapy that is used to increase or repair the physical, emotional, and social condition for everybody. For a person who does not have any health problem, music therapy can decrease stress by listening to the music. Music is thought to have many effects on an individual. Esther (2003) believes that music may relieve stress by diverting attention away from or masking annoying noise. Hoffman (1997) reveals that music can help achieve a deep state of relaxation, relieve insomnia, and enable patients to recall suppressed memories, lower blood pressure, and normalize cardiac arrhythmia. Esther (2003) says that music enables the body to synchronize the music rhythms. For example, if an anxious patient with a racing heartbeat listens to slow music; his or her heart rate will slow down and synchronize with the music's rhythm.

Music therapy aims at watching over and increasing well-being, restraining stress, decreasing the feeling of being ill, express feeling, increasing memory, increasing communication ability, and speeding up physical rehabilitation. The purposes of this research are, (1) to know the level of patient's anxiety before and after being given music therapy, (2) to analyze the effectiveness of music therapy to decrease the level of anxiety by giving therapy music before and after the treatment. The indicator used was by measuring patient's blood pressure, hearth rate, and respiration rate.

From a nursing perspective, the benefit of music intervention can be used for therapeutic purposes to promote patient/client health and well-being. Furthermore, it can give accurate information for nurse profession and other health profession to implement music therapy as a non pharmacologic therapy to decrease level of patient's anxiety during care time in intensive care unit.

## **INSTRUMENT AND METHOD**

This study was designed as an experimental quantitative study measuring anxiety, blood pressure, and heart rate in one group of patients who listen to the music before and after the treatment. The purpose of the study was to determine the effects of music on patients' anxiety levels during treatment in intensive care unit.

The research assessed the effectiveness of music as a relaxation modality by measuring patients' vital signs and through patients' self-reports of anxiety before and after the procedure. The researcher measured patients' blood pressure and heart rate by using an automated portable blood pressure and heart rate monitor. Before the study began, this machine had been calibrated according to the manufacturer's set tolerance level.

Patient participation in the research study was voluntary. The purpose of the investigation was explained to patients before, and their written informed consent was obtained. Thirty patients were approached to participate in the study, but only 20 patients participated. Some individuals did not participate because they did not like music or felt uncomfortable with the headphones. Some did not like the choices of music available.

Patients in the experimental group were given a choice of taped music to be listened to through headphones. Classical music, contemporary popular music, and Indonesian popular music were selected as categories because these types of music are the most popular in Indonesia and people are familiar with them. Songs with relatively slow rhythms were selected very recommended. Because, the music selected should have a slow or moderate rhythm and be something with which most people are familiar. The running time of each tape lasted for about 30 minutes.

## RESULT

**Table 1. Two paired t-test for independent group pre-treatment of music therapy, December 2006 – January 2007**

<i>Variable</i>	<i>Mean</i>	<i>Standard Deviation</i>
Anxiety level	50.05	5.50
Heart rate	102.9	26.17
Systolic blood pressure	129.9	25.31
Diastolic blood pressure	83.15	13.67
Respiration Rate	24.8	5.89

**Table 2. Two paired t-test for independent group post-treatment of music therapy, December 2006 – January 2007**

<i>Variable</i>	<i>Mean</i>	<i>Standard Deviation</i>
Anxiety level	31.83	4.97
Heart rate	94.35	23.20
Systolic blood pressure	119.70	17.17
Diastolic blood pressure	78.00	12.99
Respiration Rate	23.1	5.33

**Table 3. T-test for independent group pre and post the music therapy, December 2006 – January 2007**

<i>Variable</i>	<i>Mean</i>	<i>SD</i>	<i>Confidence interval</i>	<i>Correlation</i>	<i>Sig.</i>
Anxiety level	31.8	4.97	4.25 – 13.60	.910	.001
Heart rate	9.55	11.37	4.23 – 14.87	.927	.001
Systolic blood pressure	5.15	4.74	2.93 – 7.37	.938	.000
Diastolic blood pressure	8.5	10.82	3.48 – 13.61	.911	.002
Respiration Rate	1.70	1.62	.93 – 2.4	.963	.000

The demographic characteristics of the experiment result were tabulated. The groups were determined based on the possibility of differences among individual pretreatment variables, which could affect treatment outcomes. Previous critical experience, duration of care, and the amount of procedure given might form confounding factors that could influence the outcome. The groups' variation with respect to age, sex, marital status, education level, and critical experiences, were analyzed with a chi-square test, and there were no significant results for the groups.

A two-sample t test for independent groups to detect any baseline differences in each of the pretest variables was performed and established a P value of < .05 as the level of significance. It revealed that there were no significant differences in anxiety level, heart rate, and systolic and

diastolic blood pressure, and respiration rate during pre-assessment (*Table 1*). A two-sample t test for independent groups is measured to detect the differences in the identified variables. It revealed that patients receiving music intervention had significantly lower values in all four variables (*Table 2*).

In addition, researcher performed a t-test for paired samples to compare pretest and posttest variables for the groups. It revealed that patients in the experimental group demonstrated a significant decrease from pretest to posttest in all four variables (*Table 3*).

## DISCUSSION

Researchers hypothesized that patients who listened to music during their time in the critical care would experience significant lower anxiety, blood pressure, and heart rate levels. Results support the hypothesis and reveal that patients in the experimental group had significantly lower values in anxiety, blood pressure, and heart rate levels. The patients demonstrated a significant decrease from pretest to posttest in anxiety level, blood pressure, and heart rate.

In addition, the findings from descriptive data support the conclusion that music, from the patients' perspective, was considered helpful when patients were undergoing treatment in the ICU. Listening to music with headphones can mask surrounding sounds, and it helps patients to relax and it can direct their attention away from a stressful event. The music which they selected also helped them gain a certain degree of control over a strange environment. Their sense of familiarity stemmed from beloved music, which further helps them to comfort to their own world.

Iriarte Roteta A. (2003) has demonstrated that the use of music can be an effective technique in the clinical area because it can distract patient's attention and muffle many sounds (e.g., monitors, alarms) of a normal busy hospital. Researchers have confirmed that music that promotes relaxation can provide a noninvasive method of decreasing patients' anxiety and it can improve their emotional state. Augustin, P (2000) investigated listening to music as a method of reducing patients' anxiety during minor surgery with local anesthesia. The results showed that patients who listened to their choice of music during surgery experienced significant lower anxiety levels, heart rates, and blood pressure than patients who did not listen to music. Gaberson (1995) that produced similar results measured the effects of listening to music intra operatively on patients' anxiety and blood pressure.

This research demonstrated the importance of providing music for critical patients who want it. Music therapy had positive effects on this group, and the patients perceived that they had received a higher quality of care. The use of music for some patients appears to be an excellent noninvasive technique that can offer patients additional comfort in a stressful situation. Music therapy contributes to reduce anxiety, blood pressure, and heart rate and to relax muscle tension. This research also demonstrates that many opportunities may exist for additional controlled investigations during critical experiences to improve patient outcomes. Since, music is complex and affects the physiological, psychological, and spiritual aspect of human beings.

Special attention also should be paid to the choice of music. Music chosen and favored by patients has the greatest impact on helping patients to relax. For that reason, respect for everyone's choice and taste is crucial to optimize the effect. Critical nurses, however, should remember that not every patient consider listening to music as a relaxing experience. Some patients simply do not like

music at all. Enhanced communication with patients during the care time to get accurate information concerning their preferences is paramount if the nurses are striving for quality patient-centered care.

Although this study has demonstrated the effect of music on reducing patients' anxiety, the effect of other variables (e.g., medication, individual personality) cannot be ruled out.

## CONCLUSION

This study supports the hypothesis that slow or moderate rhythm music can reduce patients' anxiety during critical conditions. Music seems beneficial in helping participants to relax. Intensive nurses can help patients to choose the music that will give soothing effect during a care in intensive care unit. Additional research is needed to examine the separate effect of headphones on patients' anxiety levels during their procedure in the intensive care unit. This can help establish more accurate result to determine whether the change in anxiety level, because the music will block out ambience of ICU noise.

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