Study on the Effect of Music Therapy on Psychological Intervention of Patients after Operation

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Abstract

Objectives: The objective was to explore the effect of music therapy on psychological intervention of patients after operation. Methods: The patients were divided into observation group and control group with an average of 68 patients after the outpatient operation. Routine psychological nursing was administered to the patients after operation in the control group and patients in the observation group were administered music therapy on the basis of routine psychological nursing. The psychological anxiety value of the two groups of patients was assessed by Zung Self-Rating Anxiety Scale. At the same time, the blood pressure, pulse, and pain of the two groups of patients were compared. Results: The blood pressure, pulse, and pain degree of the patients in the observation group were better than those in the control group. The psychological anxiety value of the two groups was statistically significantly better than that of the control group \( P < 0.05 \). Conclusions: Music therapy has an important influence on the psychological intervention of postoperative patients. Patients’ psychological anxiety can be reduced by the use of music therapy at the same time will reduce the psychological anxiety of the patients, improve the psychological status of the patients, help the patients to maintain the stability of vital signs and help the patients recover after operation.

Keywords: Blood pressure, music therapy, postoperative patients, psychological intervention

Introduction

Surgery is a special experience for everyone, and the extent of the operation will bring fear and anxiety to the patient. Some patients also experience chills and trembling in front of the operating table, mainly due to fear of pain and death, worrying about whether there will be surgical accidents and whether there will be postoperative complications such as anxiety.\(^1\) Modern psychological studies have found that music can regulate people’s mental and psychological status and improve physical function, resulting in different degrees of excitement, sedation, pain relief, blood pressure, and other effects.\(^2\) Music therapy refers to the scientific use of the musical characteristics of the impact of people, to help individuals in the process of disease or disability to achieve physical, psychological, and emotional integration, and through the artistic appeal of music with unique physical characteristics, specific frequencies affect people. The circadian rhythm, especially in the psychological and spiritual aspects, plays an auxiliary role in medical care.\(^3\) Surgery can cause stress to the patient’s physiology and psychology. Most patients will experience different levels of preoperative anxiety, which will reduce the pain threshold of the patient, and will have a negative impact on the body’s various systems and the patient’s mental and social aspects.\(^4\) leading to a series of psychophysiological responses, such as feeling pain and muscle tension; more severe anxiety can cause changes in the patient’s heart rate and blood pressure, directly affecting the surgery. Studies have shown that music can make patients relieve tension and improve stress.\(^5\) At present, there are many studies at home and abroad that have confirmed the value of music therapy in clinical medicine.\(^6\)

Overview

The patients were divided into observation group and control group with an average of 68 patients after the outpatient operation. Routine psychological nursing was administered to the patients after operation in the control group and the patients...
in the observation group received music therapy on the basis of routine psychological nursing. The psychological anxiety value of two groups of patients was assessed by Zung Self-Rating Anxiety Scale. At the same time, the blood pressure, pulse, and pain of the two groups of patients were compared.

**Methods**

**Intervention method**

The two groups of patients on the 1st day before surgery were visited to understand their condition. On the day of surgery, the background music was broadcasted for the observation group. The details were as follows: In addition to routine care, the melody-reduced light music echoed in the operating room after the patients entered the operating room on the day of surgery. Background music: the patrolling nurse selects music that is healthy, beautiful, harmonious, and acceptable to the patients according to the patient’s preferences. The control group did not receive background music. The patrolling nurses routinely took the patients to the operating room. Other operational procedures and nursing care were the same as the observation group. The patient’s blood pressure and heart rate were recorded and evaluated prior to anesthesia administration on the 1st day before surgery and on the day of surgery. Statistical details are shown in Table 1.

**Measurement criteria: Hamilton Anxiety Scale**

Hamilton made 14 editions in 1959. The Hamilton Anxiety Scale (HAMA) has a total of 14 projects, each with a score of 0–4 points. There are 5 score points: 0: asymptomatic, 1: mild, 2: moderate, 3: severe, and 4: extremely heavy. The HAMA score ranges from 0 to 56 points. The higher the score, the more severe the anxiety level. The total score exceeding 7 points indicates that there may be anxiety.

**Statistical methods**

Statistical data were processed using SPSS 17.0 statistical software (IBM Corporation), and double-entry method was used to ensure the accuracy of data entry. The difference was statistically significant at \( P < 0.05 \).

**Results**

**The changes of blood pressure and heart rate**

The blood pressure and heart rate of the two groups were measured before anesthesia administration on the 1st day before surgery and on the day of surgery. Statistical analysis was performed. The results are shown in Table 2. The preoperative blood pressure in the observation group and the control group was 116.21 ± 3.62 mmHg (1 mmHg = 0.1333 kPa) and 113.36 ± 3.31 mmHg, respectively. There was no statistically significant difference between the two groups (\( t = 1.27, P > 0.05 \)). The heart rate in the observation and control group were 79.75 ± 4.63 beats/min and 81.28 ± 5.86 beats/min, respectively. There was no statistically significant difference between the two groups (\( t = 0.71, P > 0.05 \)). The blood pressure in the control group and observation group was 111.33 ± 9.82 mmHg and 119.18 ± 14.65 mmHg, respectively. There was a statistically significant difference between the two groups (\( t = 4.76, P < 0.05 \)).

**Anxiety in the two groups**

The anxiety of the two groups was measured before anesthetic administration on the 1st day before surgery and on the day of surgery. Statistical analysis was performed. The results are shown in Table 3. The preoperative anxiety scores in the observation group and the control group were 29.5 ± 10.9 points and 27.6 ± 11.3 points, respectively. There was no statistically significant difference between the two groups (\( t = 0.77, P > 0.05 \)). The anxiety scores of the observation group and the control group were 11.3 ± 7.7 min and 17.6 ± 8.1 min, respectively, before anesthetic administration on the day of surgery. The difference was statistically significant (\( t = 3.74, P < 0.05 \)). This shows that after the music therapy was used in the observation group, blood pressure, heart rate, and anxiety level of the patients significantly improved.

**Conclusions**

Before the operation, the patient lies on the operating table. Unfamiliar circumstances will undoubtedly aggravate the patient’s fear and anxiety. A large number of international
studies have confirmed that musical stimulation can affect the release of certain brain transmitters such as acetylcholine and norepinephrine, thereby improving cerebral cortex function; as music can increase the concentration of pituitary enkephalin, and enkephalin can suppress pain, it has analgesic effect. Therefore, melodic music has the effect of sedation and reduces pain. It can adjust the circulatory system of humans through psychological and physiological methods to make the heart rate go from high to normal, and blood pressure tends to go from high to normal. Modern neurophysiologists have demonstrated that music has a direct impact on neural structures, especially on the cerebral cortex. The melody, speed, and tone of music can make people feel calm, relaxed, and happy, and thus can regulate emotions; stabilize the internal environment; and relieve pain, regulate blood pressure, and has hypnotic effect. During surgery, the patient listens to the music and distracts his or her attention so that his or her mind can concentrate on the beautiful melody. At the same time, he/she can avoid the unpleasant stimulation of the operating room noise, thus reducing the adverse reactions and improving the safety of the operation. This study shows that surgical patients with music therapy in the operating room before surgery can help patients to maintain stable vital signs, relieve or reduce the patient’s preoperative anxiety so as to ensure the smooth operation.

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Conflicts of interest
There are no conflicts of interest.

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Table 3: Comparison of anxiety in the two groups

| Groups          | Anxiety score | 1 day before surgery | On the day of surgery |
|-----------------|---------------|----------------------|-----------------------|
| Observation group | 29.5±10.9     | 11.3±7.7             |
| Control group   | 27.6±11.3     | 17.6±8.1             |
| t               | 0.77          | 3.74                 |
| P               | >0.05         | <0.05                |