

Effect of Music Therapy on Anxiety Levels in Circumcised Children in The Senduro Health Center Area

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Abstract:

Circumcision is a minor surgical procedure that often causes fear and pain in children, making them anxious. If this anxiety is not addressed, it can cause the child to be uncooperative and interfere with the circumcision process. Therefore, both distraction and relaxation therapy are needed to overcome anxiety, one of which is religious music therapy. Religious music therapy is a therapy that involves interpersonal processes using music for physical, emotional, mental, social, aesthetic, and spiritual aspects of therapy to help patients improve or maintain their health. This type of research is a pre-experimental study using a one group pretest-posttest approach. The sampling technique used is accidental sampling, with 30 children as a sample who will undergo circumcision according to the inclusion criteria of the study. Data was collected using the State-Trait Anxiety Inventory (STAI) questionnaire. The results of this study indicate that there is a significant effect between the provision of religious music therapy on reducing anxiety in circumcised children, with the results of the Wilcoxon statistical test obtaining a p-value of 0.000 ($p < 0.05$). Physiologically, music therapy will mutate the brain so it can release the analysis process of the song being heard, affect the pituitary to release the hormone beta-endorphin, reduce cortisol or anxiety-triggering hormones so that it can make someone calmer and provide a sense of security that is very helpful in reducing anxiety levels. When listening to music, the stimulus activates the hormone endorphin to help increase relaxation in a person's body.

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INTRODUCTION

Surgery is often a crucial moment in a person's healing journey, but it is also often filled with significant anxiety. The definition of surgery is the invasive aspect of this medical procedure that involves direct intervention in the patient's body. In this context, patients must face potential risks and complications that may arise during or after circumcision; this situation becomes a trigger for the manifestation of excessive anxiety (Mediarti et al., 2022). When undergoing circumcision, various reasons can cause fear or anxiety in patients. This anxiety can be caused by fear of pain after circumcision, concern about physical changes that can change the appearance and function of the body (body image), fear of the possibility of serious illness (especially if the diagnosis is uncertain), and fear or anxiety due to the bad experiences of others who have similar diseases (Packyanathan et al., 2019). This fear and anxiety can be recognized through physical signs such as increased pulse rate, uncontrolled hand movements, frequent asking the same questions, restlessness, and difficulty sleeping (Celik & Edipoglu, 2018; Dewi et al., 2023).

By 2023, more than 27 million voluntary medical circumcision procedures have been performed in 15 priority countries in East and Southern Africa since 2007. This procedure is carried out as part of HIV prevention efforts because voluntary medical circumcision (VMMC) has been shown to reduce the risk of men contracting HIV through heterosexual intercourse by around 60% in 11 out of 50 disease treatments in all hospitals. The prevalence of anxiety in Indonesia is estimated to range from 9% -12% of the population. According to Rahmadina et al. (2023), the prevalence of patients with surgical procedures in East Java in 2018 was 10,503 patients undergoing surgery with general anesthesia. This number increased in 2020. Namely, 12,720 patients underwent surgery using general anesthesia. According to data from the Lumajang Regency Health Office, in 2019, there were 10,0623 cases, increasing to 11,436 in 2020. At the Senduro Health Center, there were 114 circumcised children.

To overcome anxiety, various relaxation and distraction methods can be used, one of which is relaxation with religious music therapy. Religious music also combines music therapy and spiritual therapy, speeding up the client's recovery. Sound has incredible power. Music is no exception in the harmony of nature (Mudzakiroh, 2020; Kurniyawan et al., 2024). Religious music can relax the mind and body. Relaxing, popular, religious, or classical songs can be therapy. Choosing a song with a calming tempo of 60 beats per minute is recommended. If the tempo is too fast, the stimulus that enters will unconsciously make us follow the rhythm, making it difficult for us to rest well. Religious music is a good reference. Religious tones usually have medium frequencies, wide pitch ranges, and dynamic tempos (Jabbari et al., 2020). Religious music is beneficial for patients who are going to undergo circumcision and are experiencing anxiety. Listening to religious music before the procedure can help calm the mind, reduce anxiety, and make patients feel more comfortable during the preparation and implementation of Circumcision. With this background, the author would like to present the research results related to the anxiety level of pre-circumcision patients at one of the Senduro Health Centers in Lumajang Regency.

METHOD

This study used a pre-experimental method with the One-Group Pretest-Posttest Design approach. The population in this study were circumcised children who were in one of the mass circumcisions in the Senduro Health Center area. The sampling technique used was purposive sampling. Based on calculations using the Slovin formula, the sample obtained 30 children. The State-Trait Anxiety Inventory (STAI) questionnaire measured the dependent variable. Data analysis was performed using the Wilcoxon Signed Rank Test, interpreting H1 accepted if $p\text{-value} \leq \alpha$, with $\alpha = 0.05$.

RESULT

General Data of Respondents

Table 1. Frequency distribution of respondent characteristics by age

Age	Frequency	Percentage
6 years old	3	10
7 years old	6	20
8 years old	7	23.3
9 years old	5	16.7
10 years old	4	13.3
11 years old	5	16.7
Total	30	100

The table above shows that the majority of respondents were aged 7 years, a total of 7 (23.3%) children.

Anxiety Levels

Table 2. Frequency distribution of anxiety levels before and after religious music therapy

Anxiety Levels	Pre		Post	
	Frequency	Percentage	Frequency	Percentage
Heavy	0	0	0	0
Medium	27	90	8	26.7
Light	3	10	22	73.3
Total	30	100	30	100

Table 2 shows that the majority of respondents, 27 (90%) children who were going to undergo circumcision, had a moderate level of anxiety before being given religious music therapy. Then, 3 (10%) respondents had a mild level of anxiety. After being given music therapy, the majority of respondents had a mild level of anxiety, namely 22 (73.3%). While the remaining 8 (26.7%) still had a moderate level of anxiety.

Table 3. Cross tabs of anxiety levels before and after religious music therapy

Pre	Post			
	Light	Medium	Heavy	Total (%)
Light	3 (100)	0 (0)	0 (0)	3 (10)
Medium	19 (70.4)	8 (29.6)	0 (0)	27 (90)
Heavy	0 (0)	0 (0)	0 (0)	0 (0)
Total	22 (73.3)	8 (26.7)	0 (0)	30 (100)

Table 3 shows that the 27 (90%) respondents with moderate anxiety levels before being given music therapy experienced a decrease in anxiety levels after being given therapy. Where 19 (70.4%) of them had low anxiety, and the remaining 8 (29.6%) remained at moderate anxiety levels. Of the 27 (90%) respondents with moderate anxiety levels before being given music therapy experienced a decrease in anxiety levels after being given therapy. Where 19 (70.4%) of them had low anxiety, and the remaining 8 (29.6%) remained at moderate anxiety levels.

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Table 4. Wilcoxon signed-rank test

Variable	p
Providing religious music therapy for anxiety levels	0.000

The table above shows that based on the results of the Wilcoxon statistical test, the p-value is 0.000 ($p < 0.05$), which means that the hypothesis in this study is accepted. This means that there is a significant influence between the provision of religious music therapy on reducing anxiety in circumcised children.

DISCUSSION

The results of this study indicate that the majority of respondents, namely 27 (90%) children who will undergo circumcision, have a moderate level of anxiety before being given religious music therapy. Then, 3 (10%) respondents have a mild level of anxiety, and none (0%) respondents have a severe level of anxiety. Meanwhile, after being given religious music therapy, the majority of respondents have a mild level of anxiety, namely 22 (73.3%). While the remaining 8 (26.7%) still have a moderate level of anxiety. The results of this study are in line with research conducted by Keliwawa and Thalib (2022), which showed that before therapy was given, the majority of children who were going to undergo circumcision had a moderate level of anxiety, namely 12 (80%) respondents. The lowest was mild anxiety, namely 3 (20%) respondents. Moreover, the lowest was mild anxiety, namely 3 (20%) respondents. The results are also in line with research conducted by Reski et al. (2021), which stated that before therapy, the majority of children who would undergo circumcision had moderate anxiety levels, namely 23 (76.7%) respondents, and the remaining 7 (23.3%) experienced severe anxiety. The results of a study conducted by Ainnur Rahmanti et al. (2021) showed that anxiety levels decreased from before music therapy was given.

Circumcision in Indonesia is better known as sunat or khitan. From several previous studies, circumcision is highly recommended and is a safe procedure. Circumcision is the act of removing part of the prepuce. This procedure is a minor surgical procedure by cutting the skin of the penis to remove the fold of skin that usually covers the glans penis (Keliwawa & Thalib, 2022). This procedure is performed for religious, hygiene, or cosmetic reasons. Circumcision also helps treat medical conditions such as phimosis. Medically, circumcision has many benefits, including preventing urinary tract infections, maintaining penile hygiene, reducing the risk of HIV transmission, and reducing the risk of penile carcinoma (Rahmawati et al., 2022). Circumcision is a minor surgical procedure that often causes fear and pain in children. Most people have the impression that circumcision is a standard procedure without considering the psychological aspects of children, causing them to cry and refuse to continue the circumcision process because the child feels nervous or afraid and anxious when about to be circumcised (Pamuja et al., 2021).

Anxiety is a psychological condition or mood that causes discomfort and interferes with a person's well-being. This condition arises due to worry or fear of something that may not happen, causing feelings of fear and reluctance, accompanied by sadness (Halawa et al., 2023). Anxiety is one of the things that children will face before undergoing circumcision; the cause of anxiety is in the form of pain and fear during the circumcision process (Rahayuningrum et al., 2020). The results of observations conducted by Keliwawa and Thalib (2022) showed that children who were going to be

circumcised looked restless and scared when they arrived at the circumcision table, so they had to be held by their parents and medical personnel because they saw other children crying when the circumcision process took place, which became an obstacle in the circumcision process. One of the inhibiting factors in performing circumcision is fear, which leads to prolonged anxiety, which will become anxiety disorders such as panic, stress, and phobia (Saputri & Aprilina, 2024).

Therapy is needed that can overcome or reduce the level of anxiety. One of them is with religious music therapy distraction techniques. Religious music can have a significant positive effect on circumcision surgery, especially in reducing anxiety and stress levels in patients, especially children who will undergo circumcision. Calming music with spiritual meaning often helps create a more relaxed and peaceful atmosphere, thus reducing tension before and during medical procedures. Religious music can distract from fear and pain, helping children feel calmer and more comfortable. The calming effect of this music can also contribute to the stability of blood pressure and heart rate, which are essential in maintaining the patient's physical condition during surgery (Ayuni et al., 2023).

The results of this study indicate that based on the results of the Wilcoxon statistical test, the p-value is 0.000 ($p < 0.05$), which means that the hypothesis in this study is accepted. This means that there is a significant effect between the provision of religious music therapy on reducing anxiety in circumcised children. The results of the cross-test showed that out of 27 (90%) respondents with moderate anxiety levels before being given music therapy, their anxiety levels decreased after being given therapy. Where 19 (70.4%) of them became high anxiety, and the remaining 8 (29.6%) remained at moderate anxiety levels. The results of this study are in line with research conducted by Sormin and Tanjung (2024), which showed that there was an effect of music therapy on reducing anxiety in pregnant women in Purbatua Village, Padangsidempuan Tenggara District with a p-value of 0.001. Furthermore, research conducted by Ainnur Rahmanti et al. (2021) also stated that the intervention of providing religious music therapy is very effective in reducing anxiety, especially in patients who are going to undergo surgery.

Music therapy is effective in reducing anxiety in children who are going to undergo circumcision, with soothing melodies and rhythms helping to divert attention and provide a sense of security so that children become more relaxed and comfortable during the procedure, reducing stress and potential trauma (Simamora et al., 2022). Music therapy will physiologically mutate the brain so that it can release the analysis process of the song being heard; music can be captured through the cochlear nerve and transmitted to the brain nerves by activating the parasympathetic nerves, which will then affect the pituitary to release the hormone beta-endorphin, reduce cortisol or anxiety-triggering hormones so that it can make someone calmer and provide a sense of security that is very helpful in reducing anxiety levels (Budi et al., 2024). When listening to music, the stimulus activates the hormone endorphin to help increase relaxation in a person's body. The process of reducing a person's anxiety will activate the autonomic nerves (sympathetic and parasympathetic). The sympathetic nerves will activate the body's processes, while the parasympathetic nerves will minimize the body's response that can appear when someone is anxious. When the cerebral cortex receives a stimulus in the form of anxiety, it will be sent through the sympathetic nerves to the adrenal glands, releasing adrenaline or epinephrine to include deeper breathing and increased pulse.

Religious music is a combination of music therapy and spiritual therapy; both of these approaches can help clients recover faster. When music is considered a healing effort, the goal is to encourage the healing process in our bodies through inner processes. Our bodies fill the space around us with the correct movements and sound combinations. According to Grimonia (2014), religious music can also relax the human mind and body. Relaxing, popular, religious, or classical songs can be therapy. Choosing songs with a relaxing tempo of 60 beats per minute is

recommended. Religious tones usually have medium frequencies, a wide range of notes, and dynamic tempos. Listening to religious music can make you feel more relaxed. Music can relax muscles, nerves, and the mind (Nasichah et al., 2023). Religious music is not only pleasant entertainment; each verse has a meaning that can bring you closer to the creator, calm you down, or give advice to the listener. Each lyric contains meaning, usually related to religion, and some praise God Almighty because the characteristic of religious music is that it contains specific advice (Nasichah et al., 2023). Thus, religious music therapy can help reduce anxiety, overcome stress, prevent disease, and relieve pain (Ainnur Rahmanti et al., 2021).

Religious music therapy can provide a calming effect, reduce anxiety, make feelings relaxed and calm, and stabilize emotions. Religious music lyrics contain contemplation, so listeners or connoisseurs are moved and touched to draw closer to Him. Religious music lyrics are often obtained from all daily life experiences, which are attempted as one of the options to get closer to the Divine (Ainnur Rahmanti et al., 2021). Religious music can increase children's self-confidence and calmness through positive associations with their beliefs and spiritual values. This music can provide emotional support and reinforcement, making children feel more connected to their beliefs and community, which can provide mental and emotional encouragement. This positive influence is felt by patients and parents or companions who may also feel anxious. With a calmer and more conducive atmosphere, the medical team can work more focused and efficiently, improving the overall circumcision surgery experience for all parties involved (Rahmawati et al., 2022).

LIMITATION

The limitation of this study is the time constraint. The research location only covers one representative Mass Circumcision activity and cannot cover the entire working area of Senduro Health Center. In addition, the time required to wait from the day of registration to the day of circumcision is approximately one month, resulting in the study requiring a relatively long time.

CONCLUSION

There is a significant influence between the provision of religious music therapy on reducing anxiety in circumcised children. It is hoped that there will be further development related to music therapy in overcoming anxiety both clinically and academically.

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