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PRELIMINARY EFFECTS OF INTEGRATED RELAXATION AUDIO (ARTIKU) ON REST QUALITY IN PALLIATIVE PATIENTS: A QUASI-EXPERIMENTAL STUDY

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Abstract

Patients with terminal illnesses frequently struggle with anxiety, chronic pain, and sleep disorders, which can seriously lower their quality of life. ARTIKU (Integrated Relaxation Audio) is a non-pharmacological approach to innovative integrated audio relaxation therapy that combines murotal, guided imagery, and the five-finger relaxation technique. This study aims to explore the preliminary effects of ARTIKU therapy on rest quality in palliative care patients. This study used a quasi-experimental design with a one-group pretest–posttest. As many as 34 palliative patients were selected using purposive sampling. The ARTIKU music therapy was administered for three consecutive days. Measurements were taken pre-post intervention using the ARTIKU questionnaire, which measured pain level, sleep duration, and anxiety. A paired sample t-test was used to analyze the data. The median values for anxiety and pain levels decreased significantly, from 2.00 to 1.00 ($Z = -5.11$; $p < 0.001$) and from 5.00 to 2.50 ($Z = -4.49$; $p < 0.001$), respectively. On the other hand, patients' sleep duration increased significantly from 4.00 to 5.50 hours ($Z = -4.95$; $p < 0.001$). The ARTIKU therapy intervention is highly effective in alleviating pain and anxiety, as well as enhancing sleep duration among palliative patients. ARTIKU therapy demonstrates preliminary effects in improving rest quality among palliative patients, showing significant improvements in pain, sleep duration, and anxiety. These findings suggest that ARTIKU has potential as a non-pharmacological intervention and warrant further investigation through randomized controlled trials with larger sample sizes and longer intervention duration to confirm its effectiveness.

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INTRODUCTION

The quality of rest is a fundamental aspect in maintaining physical and psychological well-being, especially for palliative care patients. Sleep disturbances, chronic pain, and anxiety are common and distressing problems experienced by patients with terminal illnesses and can significantly decrease their quality of life. Quality of rest is an important aspect in maintaining physical and psychological well-being, especially for palliative care patients. Sleep disturbances, chronic pain, and anxiety are common problems experienced by patients with terminal illnesses and can significantly decrease their quality of life (1–3).

Globally, the prevalence of sleep disorders affects more than 25% of the population, with higher rates among patients with chronic diseases (4,5), especially among women with advanced gynecological malignancies, particularly cervical and breast cancers. In Indonesia, this problem is also a serious concern in healthcare services, particularly within palliative care settings.

In Indonesia, this condition is also a serious concern in healthcare services, particularly in palliative care.

Although various non-pharmacological interventions have been developed and tested to address these issues, Non-pharmacological approaches are increasingly being developed as alternative therapies to address these issues, one of which is audio relaxation therapy. Interventions such as music therapy, nature sounds, and meditation have been proven to improve sleep quality (6–8) and reduce anxiety (4,5,9). In addition, recitation of the Qur'an (murotal) has also been reported to provide significant relaxation and inner peace (10). Research reveals significant limitations in current approaches. Most existing studies focus on single-modality interventions examining music therapy alone, guided imagery alone, or individual relaxation techniques in isolation. However, palliative patients experience complex, interconnected symptoms requiring integrated approaches that simultaneously address physiological, psychological, and spiritual dimensions of well-being. However, most research still focuses on a single type of intervention, so the effectiveness of integrated approaches has not been widely studied.

Additionally, few studies have examined the integration of culturally and spiritually relevant components (such as murotal or Qur'anic recitation) combined with evidence-based relaxation techniques within a unified audio intervention package. This research gap prompted the development of ARTIKU (Integrated Relaxation Audio for Quality Rest), an innovative intervention that integrates murotal, guided imagery, and the five-finger relaxation technique to create synergistic effects across multiple health domains in a single comprehensive audio-based therapy.

Therefore, this study aims to analyze the effectiveness of ARTIKU therapy on the quality of rest, including pain level, sleep duration, and anxiety in palliative care patients.

ARTIKU therapy is an innovative integrated audio relaxation therapy that combines murotal, guided imagery, and the five-finger relaxation technique. This approach is expected to provide more comprehensive effects through the integration of physiological, psychological, and spiritual aspects. Therefore, this study aims to analyze the effects of ARTIKU therapy on the quality of rest in palliative care patients.

METHODS

This study uses a quasi-experimental design with a one-group pretest–posttest approach. The data used are primary data obtained through the quasi-experimental method. Respondents were asked to listen to ARTIKU music therapy for three consecutive days. Measurements were taken before and after the intervention using the ARTIKU questionnaire, which includes three main indicators: pain level, sleep duration, and anxiety level.

The study population consisted of palliative care patients undergoing treatment at a hospital in Jakarta. The sample consisted of 34 respondents selected using purposive sampling techniques based on specific inclusion criteria. This study has received ethical approval from the Health Research Ethics Committee of Poltekkes Kemenkes Jakarta III with number DP.04.03/F.XI.22/3/2026, issued on January 22, 2026, and all respondents have provided informed consent.

The Shapiro-Wilk test confirmed that the delta scores for all ARTIKU clinical indicators departed significantly from normality ($p < 0.05$), providing a robust methodological justification for implementing the non-parametric Wilcoxon Signed-Rank Test for bivariate comparisons.

RESULTS AND DISCUSSION

Table 1. Demographic and Clinical Characteristics of Respondents (n = 34)

Characteristic	n (%) or Mean ± SD	Range / Details
Age (years)	57.21 ± 12.94	30 - 89 years
Gender		

Female	18 (52.9%)	
Male	16 (47.1%)	
Palliative Condition Type		
Oncology (Malignancies)	17 (50.0%)	Breast ca, Servix ca, lung ca, colorectal ca, leukemia, etc.
Non-Oncology Chronic Diseases	17 (50.0%)	COPD/asthma, ESRD/CKD, Stroke/CVD.

Table 1 summarizes the demographic and clinical characteristics of the 34 palliative care patients enrolled in this study. The respondents had a mean age of 57.21±-12.94 years (range: 30–89 years), with a nearly equal gender distribution of 52.9% females and 47.1% males. Clinically, the palliative disease burden was equally divided between oncology cases (50.0%), such as breast, cervix, and lung cancers, and non-oncologic and chronic non-oncology conditions (50.0%), such as advanced COPD, End-Stage Renal Disease (ESRD), and stroke.

Table 2. Comparison of Pain Level, Sleep Duration, and Anxiety Level Before and After ARTIKU Therapy

ARTIKU Indicator	Pre-test [Median (IQR)]	Post-test [Median (IQR)]	Z Score	*p*-Score
Pain Level	5,00 (2,00 - 6,00)	2,50 (0,25 - 3,00)	-4,49	**< 0,001**
Sleep Duration (Hours)	4,00 (4,00 - 4,00)	5,50 (5,50 - 7,00)	-4,95	**< 0,001**
Anxiety Level	2,00 (2,00 - 2,00)	1,00 (1,00 - 1,00)	-5,11	**< 0,001**

The results of the Wilcoxon test concerning the effectiveness of ARTIKU therapy on the clinical status of patients are summarized in Table 2. The analysis revealed a significant reduction in the median scores for pain level, dropping from 5.00 to 2.50 ($Z = -4.49$; $p < 0.001$), and anxiety level, decreasing from 2.00 to 1.00 ($Z = -5.11$; $p < 0.001$) after the intervention. In contrast, patients' sleep duration showed a significant improvement, with the median increasing from 4.00 hours to 5.50 hours ($Z = -4.95$; $p < 0.001$). Thus, the findings demonstrate that the ARTIKU therapy intervention is highly effective in alleviating pain and anxiety, as well as enhancing sleep duration among palliative patients.

These findings indicate that ARTIKU therapy is effective in improving the quality of rest in palliative patients by decreasing pain and anxiety as well as increasing sleep duration. Theoretically, these results can be explained by the relaxation response mechanism, which reduces sympathetic nervous system activity and enhances parasympathetic activity (11). Additionally, the gate control theory explains that audio stimuli such as music can inhibit the transmission of pain signals to the brain (12).

These findings are in line with various previous studies showing that music therapy has a significant effect on sleep quality and anxiety. A study by Liu et al. demonstrated improved sleep quality following a music intervention (13), while Wang et al. found that a combination of relaxation sounds could increase sleep duration (4). A meta-analysis by Lin et al. also showed that music therapy is effective in reducing anxiety and improving sleep quality (6), supported by systematic reviews by Ding et al. and Jespersen, which state that music can be used as a non-pharmacological intervention for insomnia (14,15).

Furthermore, this study also reinforces previous findings that a multimodal approach produces greater effects than single interventions. Bissonnette and Park reported that multimodal relaxation interventions are more effective in improving sleep quality (16,17). This is consistent with the results of this studythis study, which showed high effect sizes, particularly for sleep and anxiety variables. The anxiety reduction is also supported by several studies that state music is effective in reducing anxiety in clinical patients (6,17–19).

The murotal component in ARTIKU also provides a unique contribution through a spiritual approach.

Research by Hechehouche et al. and Saputri indicates that recitation of the Qur'an (murotal) can have a pronounced relaxation effect on psychological conditions, helping to reduce anxiety, stress, and physiological responses, while also improving mental health and memory (20,21). This effect is thought to be related to the emergence of alpha brain waves and a sense of calm while listening to or reading the Qur'an (19). Therefore, murotal can be considered a supporting non-pharmacological intervention for patients or individuals experiencing psychological or sleep disorders. This presents an advantage over conventional music therapy, as it includes a spiritual dimension relevant to the patient's cultural context.

In the palliative context, the use of music therapy has also been recommended as part of a holistic approach to improve patients' quality of life (2,22). Thus, ARTIKU could serve as an innovative intervention that simultaneously integrates physiological, psychological, and spiritual aspects.

However, this study has limitations, including the absence of a control group, a limited sample size, and a relatively short intervention duration. Therefore, further research using a randomized controlled trial design with a larger sample size and longer intervention duration is recommended.

CONCLUSION

Integrated Relaxation Audio Intervention (ARTIKU) therapy demonstrates promising preliminary effects in improving rest quality among palliative patients, showing significant improvements in pain, sleep duration, and anxiety. These findings suggest that ARTIKU has potential as a non-pharmacological intervention and warrant further investigation through randomized controlled trials with larger sample sizes and longer intervention duration to confirm its effectiveness.

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