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A comparative study of the effects of white noise and instrumental music on the sleep of patients hospitalized in the coronary care unit

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Background and Aim: One of the complementary approaches of the medical treatment of sleep problems or the improvement of the sleep of patients hospitalized in the intensive care unit is using non-pharmaceutical methods. Nurses need to understand the effective non-pharmacological methods, improve patients' sleep. Thus, this study was carried out with the aim of "comparing the effect of white noise and that of instrumental music on the sleep of patients hospitalized in the coronary care unit".

Method: This clinical trial study was conducted in hospitals affiliated to Tehran University of Medical Science, Iran, from July 2014 to October 2014. After obtaining approval and written consent, 108 acute coronary syndrome patients hospitalized in the coronary care units, were randomly divided into three groups white noise, instrumental music and control. The quality of sleep was measured in the beginning of hospitalization and three days after it, and the quantity of sleep was measured on all the three days using the Pittsburgh sleep quality index and the sleep log quantity indices in all groups. The intervention was done in the form of playing white noise and instrumental music in headphones for the first of three-night of hospitalization time span 45 minutes in the beginning of the patients' sleep in white noise and instrumental music groups. Control group received no intervention. Data were analyzed by SPSS using chi-square, fisher's exact test, ANOVA, and Scheffe.

Findings: The findings showed that the mean \pm SD of the age of sample was 62.08 ± 12.69 in the control group, 55.89 ± 12.00 in the white noise group, and $56/92 \pm 10/47$ in the instrumental music group. In terms of the mean change in the sleep quality score before-after intervention, and sleep quantity at the three nights of hospitalization, the results of the ANOVA test showed a statistically significant difference among the white noise, instrumental music, and control groups ($p=0.000$). The results of the Scheffe test showed that the statistical difference between the white noise and control groups, and the instrumental music and the control groups is significant ($p=0.000$), but it is not significant difference in the white noise and the instrumental music groups.

Conclusion: According to the findings of this study, nurses can benefit from non-pharmacological methods such as white noise and instrumental music in their daily care to improve their patients' sleep.

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