Effectiveness of aromatherapy massage on postoperative pain and sleep pattern among children

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Introduction:
Post operative pain management is challenging for nurses especially in pediatrics even though adequate analgesics are available to control the pain. The new trend in nursing is the use of complementary therapy to enhance the physical and mental well being of the patient. Aromatherapy is one of the most widely used methods of complementary therapies. Aromatherapy is used for controlling the pain, anxiety, depression, stress, and improves the sleep pattern. Children who had undergone surgery will perceive moderate to severe pain and it can have a significant effect on patient recovery. Aromatherapy is one of the most rapidly expanding areas among complementary therapy. Complementary therapies may have an important role in holistic pediatrics pain management.

Aim
The aim of the study was to evaluate the effectiveness of aromatherapy massage in reducing pain and improving sleeping pattern among post operative children.

Problem Statement
‘Effectiveness of aromatherapy massage on postoperative pain and sleep pattern among children (6-12 years)’

Objectives of the study:

• To determine the postoperative sleep pattern among children (6-12 years) as assessed by structured interview schedule.
• To evaluate the effectiveness of aromatherapy in improving the sleep pattern among postoperative children (6-12).
• To describe the characteristics response of postoperative pain among children (6-12 years) as assessed by FACES pain scale.
• To evaluate the effectiveness of aromatherapy in reducing the postoperative pain.
• To find the correlation between postoperative pain and sleep pattern.
Hypotheses

- **H1**: The mean post-test sleep pattern score of the experimental group is significantly higher than the mean pre-test sleep pattern score.
- **H2**: The mean post-test sleep pattern score of the experimental group is significantly higher than mean post-test sleep pattern score of control group.
- **H3**: There is a significant difference in post test pain score in experimental and control group
- **H4**: There is a significant correlation between post operative pain and sleep pattern.

Methodology

**Research approach:** Evaluative approach was used

**Research design:** Interrupted time series with control group design was used in this study

- **E:** P1 S1 X P2 X P3 S2 X P4 X P5 S3
- **C:** P6 S4 P7 P8 S5 P9 P10 S6

*P*<sub>1</sub> is pre test to assess pain and *S*<sub>1</sub> is pretest to assess sleep pattern in experimental group. *P*<sub>2</sub> *P*<sub>3</sub> *P*<sub>4</sub> *P*<sub>5</sub> and *S*<sub>2</sub> *S*<sub>3</sub> is post test to assess pain and sleep pattern in experimental group.

**Method:**

*An evaluative study and continuous time series research design* with purposive sampling technique was used to select 40 samples.

Data was collected by using *structured interview schedule* and *Wong Baker’s FACES pain scale*.

Pre test was conducted on both experimental and control group.

The aromatherapy massage was administered to experimental group two times a day for two days from first post operative day.

Four post tests were done to assess the pain and two post tests were done to assess sleep pattern both in the experimental and in the control group.

The collected data was analyzed using *descriptive and inferential statistics*.

Major findings of the study

**Findings related to post operative sleep pattern among children (6-12 yrs)**

In the experimental group, pre test score shows that majority (65%) of sample had poor sleep pattern where as in the control group highest (55%) percentage of the sample had average sleep pattern.

In post test I majority (60%) of children had poor sleep pattern in the experimental group where as in the control group most (90%) of them had average sleep pattern.

In post test II all (100%) the sample had good sleep pattern in the experimental group where as in the control group, highest (55%) percentage of the sample had good sleep pattern.

The difference in experimental group of pre test to post test I was *t*<sub>19</sub>=13.80, pre test to post test II was *t*<sub>19</sub>=16.86, post test I to post test II was *t*=5.486 value was more than the table value (*t*<sub>19</sub>=1.72) at 0.05 level of significance.

There was significant difference in post test I (*t*<sub>38</sub>=10.28) and post test II (*t*<sub>38</sub>=7.28) sleep pattern score between experimental and control group at 0.05 level of significance.

**Level of post operative pain among children (6-12 years)**

It is observed that in pre test highest percentage of sample reported hurt worst both in the experimental group (50%) and in control group (55%).

In post test II highest percentage of sample reported hurt even more in the experimental group (50%) and hurt whole lot in the control group (55%).

In post test III highest percentage (55%) of sample in the experimental group and least percentage (22%) of the sample in control group reported hurt little more.

In post test IV majority (70%) of sample in the experimental group reported no hurts where as in the control group majority (75%) of the sample reported hurt even more.

The present study findings revealed that the difference in post test pain was found significant.
as evident from the ‘F’ value 95.78 in the experimental group and 30.47 in the control group at 0.05 level of significance. There was a negative correlation between post operative pain and sleep pattern. The obtained correlation coefficient value \( r = -0.728 \) which was significant at 0.05 level of significance.

**Interpretation and conclusion of the study**

From the findings of study it can be concluded that after the surgery highest percentage of children experience pain and sleep disturbance and aromatherapy massage was effective in reducing the post operative pain and improving sleep pattern among the children of 6-12 years.

**Reference**

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