EFFECTIVENESS OF A KALEIDOSCOPE ON PAIN AND ANXIETY DURING LOCAL ANAESTHESIA IN CHILDREN

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AIM

A study to assess the effect of distraction (looking through a kaleidoscope) on pain perception and anxiety during local anaesthesia administration in healthy children between 6-9 years.

OBJECTIVE

To determine the analgesic and antianxiety effect of distraction with kaleidoscope.

BACKGROUND

Local anaesthesia forms the backbone of pain control technique & is necessary for painless dental procedures. LA administration is an anxiety-provoking procedure in children. Distraction is one of the most common non-pharmacological techniques used to decrease a child's perception of pain in paediatric dentistry. The objective of distraction is to relax the patient and to reduce anxiety during treatment.

METHOD

A total of 50 children aged between 6-9 years were included in the study. After obtaining parental consent, the children were divided into 2 groups: 25 in the experimental group & 25 in the control group. They were told about what the kaleidoscope is and how to use it. At the start of the procedure, the children in the experimental group were given a kaleidoscope to look through until the procedure was over. In the control group, LA administration was done but the participants were not given a kaleidoscope. Data was collected using the Children's Anxiety Scale - Venham Picture test (Venham et al. 1980) and Wong-Baker Faces Pain Scale (Wong & Baker, 1988). Statistical data was analysed by the t-test. The *P*-value was considered significant at <0.05.

RESULTS

GROUPS	WB- FPRS (Mean ± SD) (Pain)	VPT (Mean ± SD) (Anxiety)
Intervention	1.4±1.35	0.66±0.86
Control	2.66±1.88	2.86±1.54
Test	t=1.96 (*P*<0.22)	t=3.13 (*P*<0.05)

DISCUSSION

In paediatric dentistry, one of the most common sources of pain for children can be seen in those procedures involving a needle. LA administrations are sources of pain and fear in children. When the child's attention is distracted away from the pain stimuli, the method of distraction acts as a gate-control. A kaleidoscope is a cylindrical instrument with colourful beads with 3 mirrors set at an angle of 60˚ to each other working on the principle of multiple reflections. It aims to reduce cortisol levels in the brain and stimulate release of dopamine, serotonin, etc., which reduce anxiety. This study suggests a statistically significant difference for anxiety between groups. Karakaya & Gozen (2016) and Kunjumon & Upendrababu (2018) have shown that use of a kaleidoscope is effective in reducing children's perceptions of pain and anxiety during venipuncture.

CONCLUSION

The kaleidoscope was able to reduce both pain and anxiety in children. There was an improvement in pain, though not significant. Reduction in anxiety was statistically significant.

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Tüfekci FG, Celebioğlu A, Küçükoğlu S. Turkish children loved distraction: using kaleidoscope to reduce perceived pain during venipuncture. *J Clin Nurs*. 2009;18(15):2180-2186.