

Distraction by a medical clown is helpful in children undergoing blood tests or line insertion" Meiri et al (2015).

Abstract:

Recently, the utilization of medical clowns to reduce anxiety, stress, and even pain associated with hospitalization has become popular. However, the scientific basis of this benefit and outcome is scant.

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Venipuncture and IV cannulation are very common sources of pain in ill children. To reduce pain, one common approach is to apply a local anesthetic prior to the procedure. In the current study, we sought to compare the utilization of medical clowning in this process with two control groups: (1) local anesthetic cream (EMLA®, Astrazeneca, London, UK) applied prior to the procedure (active control) and (2) the procedure performed with neither clown nor EMLA (control group). We hypothesized that a medical clown will reduce pain, crying, and anxiety in children undergoing this procedure. Children aged 2-10 years who required either venous blood sampling or intravenous cannulation were recruited and randomly assigned to one of the three groups. Outcome measures consisted of the duration of the whole procedure (measured objectively by an independent observer), the duration of crying (measured objectively by an independent observer), subjective assessment of pain level (a commonly used validated scale), and anxiety level regarding future blood exams (by questionnaire). Analysis of variance (ANOVA) was used to compare between the groups. $p < 0.05$ was considered statistically significant. One hundred children participated. Mean age was 5.3 ± 2.5 years (range 2-10 years). The duration of crying was significantly lower with clown than in the control group (1.3 ± 2.0 vs 3.8 ± 5.4 min, $p = 0.01$). With EMLA, this duration was 2.4 ± 2.9 min. The pain magnitude as assessed by the child was significantly lower with EMLA than in the control group (2.9 ± 3.3 vs 5.3 ± 3.8 , $p = 0.04$), while with clown it was 4.1 ± 3.5 , not significant when compared with the other two modalities. Hence, duration of crying was shortest with clown while pain assessment was lowest with EMLA. Furthermore, with clown duration of cry was significantly shorter than in controls, but pain perception did not significantly differ between these groups. As expected, the duration of the entire process was shortest in the control group (5.0 ± 3.8 min), moderate with clown (19.3 ± 5.8 min), and longest with EMLA (63.2 ± 11.4 min, $p < 0.0001$ between all). Parental

reporting of a beneficial effect was greater with clown than with EMLA (3.6 ± 0.8 vs 3.0 ± 1.1 , $p = 0.02$). Parental assessment of child's anxiety related to future blood tests as evaluated by telephone the following day revealed that it was significantly lower with clown than in the control group or EMLA (2.6 ± 1.2 vs 3.7 ± 1.3 or 3.8 ± 1.6 , $p < 0.01$ for both).

CONCLUSIONS: Distraction by a medical clown is helpful in children undergoing blood tests or line insertion. Although pain reduction was better with EMLA, both duration of cry and anxiety were lower with a medical clown. These results strongly encourage and support the utilization of medical clowns while drawing blood in children. What is Known: • Venipuncture and IV cannulation are common sources of pain in children, which may be reduced utilizing a local anesthetic cream. • The utilization of medical clowns in these procedures has never been studied in a direct comparison with the use of anesthetic topical cream. What is New: • This novel study shows the ability of the medical clown to reduce anxiety and relive pain related to venipuncture and IV cannulation in children. • While topical anesthesia reduces pain, distraction by a clown reduces crying and anxiety in children undergoing blood exams.

Reference:

Meiri, N., Ankri, A., Hamad-Saied, M., Konopnicki, M. and Pillar, G. (2015) The effect of medical clowning on reducing pain, crying, and anxiety in children aged 2-10 years old undergoing venous blood drawing-a randomized controlled study. European Journal of Pediatrics. October 16th. .

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