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Patient's Perception of the IV Experience in the Emergency Department

Marcia Schram

Baptist Hospital of Miami, mschram@bellsouth.net

Martha Tijerino

Baptist Hospital of Miami, marthati@baptisthealth.net

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Introduction

- IV insertions, a frequent procedure in EDs, may cause increased pain and anxiety
- Vapocoolant sprays - topical anesthetic skin refrigerants that briefly control the pain of IV insertion for about one minute.
- Vapocoolant spray is available in the ED, but not commonly used for IV insertion.
- Would standard use of a vapocoolant prior to IV insertions reduce pain and anxiety and improve patient satisfaction?

Literature Review

- "Intravenous (IV) access is a common procedure in the emergency department. It is a moderately painful procedure with the potential to invoke stress and anxiety in patients." (Hartstein & Barry, 2007)
- "Vapocoolants...are thought to reduce discomfort at the intravenous cannulation site via rapid cooling of surrounding skin." (Griffith, Jordan, Herd, Reed, & Dalziel, 2016)
- "Rapid cooling decreases both initiation and conduction impulses in surrounding sensory nerves, thus producing a mechanism for reducing the discomfort associated with cannulation." (Griffith, Jordan, Herd, Reed, & Dalziel, 2016)

Research Question

- Does the use of a topical vapocoolant spray prior to IV insertion reduce pain and anxiety in adult ED patients?

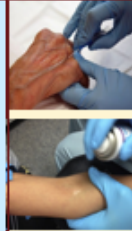
Methodology

Comparison with & without vapocoolant spray prior to IV starts

RN perceptions: 1.) Vein quality using VAT and 2.) Ease of insertion on a scale of 1-5

Patient perceptions: 1.) Ease of previous insertions on scale of 1-5, 2.) Levels of pain & anxiety on scales of 1-10, and 3.) Patients with vapocoolant used: Use again – yes or no

- 50 adult consented patients per each of 2 weeks
- Week 1 – IV's started without vapocoolant
- Week 2 – IV's started with vapocoolant



Vein Assessment Tool (VAT)		
Vein quality Code:	Definition	Management
1	Vein is easily visible and/or easy to palpate when tourniquet is applied	Cannula may be inserted by any health care practitioner accustomed to do so
2	Vein is small, scarred or difficult to palpate.	Cannula to be inserted by an expert in venous cannulation
3	Vein unable to be seen or palpated (requires heat pack to aid vasodilation)	Cannula to be inserted by an expert in venous cannulation

(Webster et al., 2007)

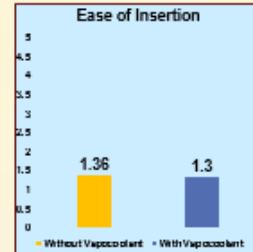
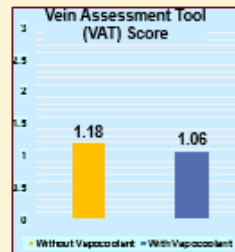
Patient's Perceptions of IV Insertion Questionnaire	
On a scale of 0-10, if you have had an IV started previously, how would you rate your previous IV experience?	
On a scale of 0-10, where 0 means no pain and 10 means the most pain, how would you rate your IV experience today?	
On a scale of 0-10, where 0 means no anxiety and 10 means the most anxiety, how would you rate your IV experience today?	

Data Analysis

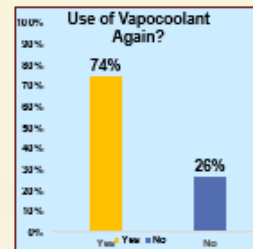
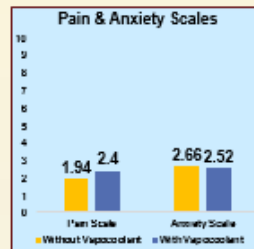
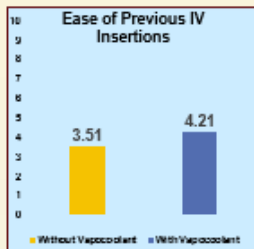
Data Table

	Scale	Without Vapocoolant	With Vapocoolant
RN - VAT Score	0-3	1.18	1.06
RN - Ease of Insertion	0-5	1.38	1.30
PL - Ease of Previous Insertions	0-6	3.51	4.21
PL - Pain Score	0-10	1.94	2.40
PL - Anxiety Score	0-10	2.66	2.52
PL With Vapocoolant - Use Again?	Yes	----	74%

RN Perceptions



Patient Perceptions



Results

- RN's experienced minimal difficulty with IV insertions, with or without use of vapocoolant.
- No statistical difference was noted in the comparison of patient pain or anxiety during IV insertion, with or without use of vapocoolant.
- Of the patients who did have the vapocoolant used prior to IV insertion, 74% would like to have it used the next time.

Conclusion/Discussion

- RN perception of both IV start difficulty and ease of insertion was very low.
- Actual pain and anxiety scores of the patients during IV insertions were very low both with and without the use of the vapocoolant.
- Patient perception scores of the IV just started were lower than scores of previous IVs.
- 74% of patients with IVs started using the vapocoolant would choose to have it again
- Skill and experience of ED RNs in starting IVs may minimize pain and anxiety caused during IV insertions with or without the vapocoolant.

Implications for Practice

- Use of a vapocoolant spray prior to IV insertion for all ED patients was not supported.
- Vapocoolants remain an available adjunct to effectively allay pain and anxiety if needed.

References

- References available upon request