ORIGINAL RESEARCH PAPER
Volume - 10 | Issue - 02 | February - 2021 | PRINT ISSN No. 2277 - 8179 | DOI : 10.36106/ijsr
INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

"A TRUE EXPERIMENTAL STUDY TO ASSESS THE EFFECTIVENESS OF XYLOCAINE 2% GEL ON PAIN INTENSITY DURING INTRAVENOUS CANNULATION AMONG PATIENTS AT SELECTED TERTIARY CARE HOSPITAL BELAGAVI"

Nursing

Mounesh Badiger* Lecturer, Department of Medical Surgical Nursing KAHER Institute of Nursing Sciences, Belagavi. *Corresponding Author

Honnagouda Patil Assistant professor Department of Medical Surgical Nursing KAHER Institute of Nursing Sciences, Belagavi.

ABSTRACT

A true experimental, post test only control group design was used to find out the effectiveness of Xylocaine 2% gel on pain intensity reduction during intravenous cannulation among the adult patients tertiary care hospital of Belagavi, Karnataka. Quantitative approach was used for the study. The study was done on 80 adult patients using standardized pain numerical scale. (Based on pilot study the prevalence rates in both group calculated p1=82% p2=100%, q1=18 q2=0, d=18% , Z= 1.96 (at 5% α error), Z= 0.842 (at 80% power) n=38 40). Simple random (lottery method) technique was used .in this study the patients, who have a patent intravenous cannula in place and who are unable perceive and responds for pain (unconscious patient). Demographical variables analyzed for the study Age, Gender, Education, Occupation, Previous experience, duration of pain during intravenous cannulation, site of cannulation and size of intravenous Cannula (Variables Independent variable: Xylocaine 2% gel. Dependent variable: Pain intensity experience during intravenous cannulation). Total 21 reviews were taken under the title of the above study (Indian- 03, International- 18). The conceptual framework used for this study is based on General Systems Theory introduced by Ludwig Von Bertalanffy in 1968. The obtained data was analyzed by using descriptive and inferential statistics. The mean of post test pain intensity during IV cannulation in experimental group was 1.93 and 4.30 in control group and SD of 0.60 in experimental group, 0.61 in control group. In this study 62.50% of participants have mild pain and 15% have moderate pain in experimental group as compared to 55% have severe pain followed by 37.50% have worst pain in control group. The difference is found to be statistically significant.

KEYWORDS

Assess, Effectiveness, Xylocaine 2%, Pain intensity, IV cannulation, SD

INTRODUCTION

Pain is the physiological mechanism which is produced in response to inflammation or tissue damage in order to protect the individual from a harmful stimulus. Hence pain assessment is a matter of concern and due to this reason most of the health care organizations have regarded pain as a fifth important sign for assessing an individual.[1]

In modern medicine intravenous therapy is important for many reasons. Intravenous therapy is used for protecting being and treating metabolic diseases and electrolyte imbalances through medicine, diet, fluids and blood products in most of the patients worldwide. Among the various infusion therapies, peripheral intravenous cannulization is basic method and widely used in a health care settings.[2]

As intravenous cannulation is invasive painful procedure, current practice in health care institutions involves either no premedication or an intradermal injection of saline or lidocaine before procedure. As a member of health care team, nurses are responsible for improving patient's experience by utilizing other suitable options to reduce the phobia and anxiety during intravenous cannulation and promote comfort.[3]

MATERIAL AND METHODS

A true experimental with post test only control group design was used to effectiveness of Xylocaine 2% gel on pain intensity reduction during intravenous cannulation.Quantitative research approach was used for the study. The study was conducted on 80 patients of both genders in the age group of 25-45 years who had under gone peripheral intravenous cannulationsand admitted in selected tertiary care hospital of Belagavi, Karnataka. The participants of the study were chosen by simple random sampling technique (Lottery method)and divided into two groups. The study group consists of 40 participants to intervention was provided. The control group consists of 40 participants to whom intervention was not provided. Data collection is done by numerical pain rating scale.

The tools used for the study consists of 2 parts:

Part A: It includes demographic characteristics such Age, Gender, Education, Occupation, Previous experience, site of cannulation and size of intravenous Cannula

Part B: Section B consists of standardized numerical rating scale for pain which is use to assess the level of pain during peripheral intravenous cannulation.The Numerical pain scale is includes 10 point ratings.

The data obtained was analyzed according to the objectives of the study using descriptive and inferential statistics.

RESULTS

1. Findings related to Frequency and Percentage distribution of participants according to thedemographic variables in control and experimental group.(n=40+40=80)

In the present study it was found that majority participants 12 (30%) belongs to the age group of 31-35 years and minority 6 (15%) of participants belongs to age group of 41-45years in the experimental group, where as in majority of 12 (30%) belonged in the age group of 36-40 years and minority 8 (20%) were in the age group of 31-35 years in control group.

In experimental group majority 29(72.50%) were male and minority 11(27.50%) were female, whereas majority 25(62.50%) were male and minority 15(37.55%) were female in the control group.

In experimental group majority of 13 (32.50%) of participants have completed their secondary education and minority 4(10%) of participants have completed post graduation and above, where as majority 12(30%) of participants were having formal education and minority 4(10%) of participants have completed post graduation and above in control group.

In experimental group majority 12(30%) of participants were in private employee and minority 3(7.50%) were in government employee, where as in control group majority 14(35%) were working in others category and minority 3(7.50%) were in government employee. In experimental group majority of participants 28(70%) were having < 3 minutes of pain duration and minority 0(0%) were having > 15 minutes of pain duration after IV cannulation, whereas majority 20(50%) of participants were having > 15 minutes of pain duration and minority 0(0%) were having <3 minutes of pain after IV cannulation. In experimental group majority 20(50%) and minority 20(50%) of participants have previous experience of IV cannulation, whereas in control group majority 27(67.50%) and minority13 (32.50%) of participants have previous experience of IV cannulation.

In experimental group majority 15(37.50%) of participants were cannulated at the site of cephalic and basilica vein and minority 2(5%) of participants were cannulated at the site of median cubital vein, whereas in control group majority 17(42.50 %) of participants were cannulated at the site of cephalic vein and minority 3(7.50%) of participants were cannulated at the site of median cubital vein.

In experimental group majority18 (45%) of participants were underwent IV cannualtion with 20 and 18 gauge size of cannula and minority 1(2.50%) of participants were underwent with 22 gauge size of cannula, whereas in control group majority 20(50 %) of participants were underwent IV cannulation with 18 gauge size of cannula and minority 0(0%) of participants were underwent IV cannulation with 22 gauge size of cannula.

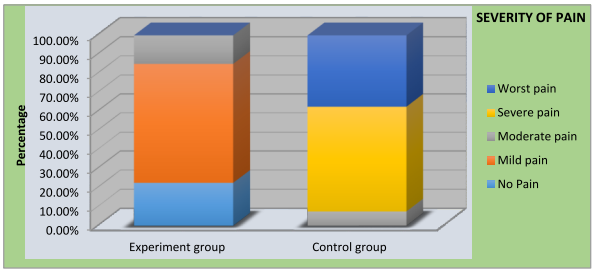
2. Findings on Mean post test score and standard deviation Comparison in experiment and control groups with severity of pain. (n=40+40=80)

The mean of post test pain intensity during IV cannulation experienced by participants in experimental group was 1.93 and 4.30 in control group and SD of 0.62 in experimental group, 0.61 in control group. In this study 62.50% of participants have mild pain and 15% have moderate pain in experimental group as compared to 55% have severe pain followed by 37.50% have worst pain in control group. The difference is found to be statistically significant (Z=-7.6114, p=0.0001*, Chi-square=72.000) at the 0.05 level. Hence the hypothesis (H_1) is accepted. **(n=40+40=80)**

Severity of pain	Experiment group	%	Control group	%	Total	%
No Pain	9	22.50	0	0.00	9	11.25
Mild pain	25	62.50	0	0.00	25	31.25
Moderate pain	6	15.00	3	7.50	9	11.25
Severe pain	0	0.00	22	55.00	22	27.50
Worst pain	0	0.00	15	37.50	15	18.75
Mean	1.93	4.30				
Median	2.00	4.00				
SD	0.62	0.61				
Mann-Whitney U test, Z=-7.6114, p=0.0001*						
Chi-square=72.000, p=0.0001*						

***p<0.05**

Graph 1: Bar diagram depicts the comparison of participants to their by with severity of pain in experimental and control group.



3. **Findings on Mean post test score and standard deviation Comparison in demographic variables with severity of pain in experiment group by Kruskal Wallis ANOVA or Mann-Whitney U test. (experimental group, n=40)**
   It shows comparison between demographical variables with severity of pain in experimental group. There were 8 demographical variables, among them Mann-Whitney U test or Kruskal Wallis ANOVA showed no significant difference with severity of pain in experimental group.
4. **Mean post test score and standard deviation Comparison in demographic variables with severity of pain in control group by Kruskal Wallis ANOVA or Mann-Whitney U test.(control group, n=40)**
   It shows that comparison between demographical variables with severity of pain in control group. There were 8 demographical variables, among them Mann-Whitney U test or Kruskal Wallis ANOVA showed no significant difference with severity of pain in control group.
5. **Association between demographic variables with severity of pain in experiment group. (experimental group, n=40)**
   It shows association between demographic characteristics with severity of pain in experimental group. There was no significant at (p>0.05) association was found between the all demographic variables.
6. **Association between demographic variables with severity of pain in control group.(control group, n=40)**
   It shows association between demographic characteristics with severity of pain in control group. There was no significant at (p>0.05) association was found between the all demographic variables.

DISCUSSION

Major Findings of the study were, The mean of post test pain intensity during IV cannulation experienced by participants in experimental group was 1.93 and 4.30 in control group and SD of 0.60 in experimental group, 0.61 in control group. In this study 62.50% of participants have mild pain and 15% have moderate pain in experimental group as compared to 55% have severe pain followed by 37.50% have worst pain in control group. The difference is found to be statistically significant (Z=-7.6114, p=0.0001*, Chi-square=72.000) at the 0.05 level.

CONCLUSION

Based on the findings of the study the following conclusions were drawn.

- The study result indicates xylocaine 2% was highly effective in reduction of pain intensity during IV cannulation.
- Among socio demographic characteristics such as Age, Gender, Education, Occupation, Previous experience, duration of pain during intravenous cannulation ,site of cannulation and size of intravenous Cannula showed no significant difference in relation with severity of pain in during IV cannulation.

REFERENCES

1. Neelam, Kumar S, GuptaH. Evaluate the Efficacy of Topical Anesthetic on Pain during Venipuncture among the Children Int. J. Nur. Edu. And Research. 2017; 5(4): 416-420. Available from: URL:http:// ijneronline. com/ HTML Paper. aspx? Journal = International % 20 Journal % 20 of % 20 Nursing % 20 Education % 20 and % 20 Research;PID=2017-5-4-17
2. Hossain AM, Hasan MIA, Haque M. Assessment of the level of knowledge and practice on intravenous cannulization among staff nurses of selected tertiary care hospital in Dhaka city. MOJ Public Health. 2016; 4(5): 156 159. Available from: URL: https://medcraveonline.com/MOJPH/MOJPH-04-00095
3. Schellenberger S, Kercell J, Polivka B. Pain Experience for Adults Having IV Insertion With and Without use of Needless Local Anesthetic Injection System. Journal of Perianaesthesia Nursing. 2015 August; 30(4): 09. Available from: URL:https:// www. jopan. org/article/S1089-9472 (15)00165-3/fulltext
4. Glowacki D. Effective Pain Management and Improvements in Patients' Outcomes and Satisfaction. The journal of high acquity, progressive, critical care nursing. June 2015vol. 35 no. 3 33-41 Available from URLhttp:// ccn. aacnjournals. org/ content/ 35/3/33. abstract
5. Ajin RS. A true experimental study to assess the effectiveness of topical anesthetic cream on pain experience among patients undergoing cannulation in selected hospital,krishnagiri district.Tamilnadu march 2014Available from URLhttp:// repository-tnmgrmu.ac.in/1274/1/3001088ajinrs.pdf