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THE EFFECT OF NEEDLE CHANGING ON SEVERITY OF PAIN INDUCED BY INTRAMUSCULAR INJECTION IN FEMALE PATIENTS

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ABSTRACT

Intramuscular injection causes pain and discomfort for patients, and so, they treat it us a anguish and uncomfortable affair. Hence, this study has done based on defining the impact of changing needle, in order to reduce pain on intramuscular injection.

In order to do and clinical trial of Doors interfering kind , we Chose 70 female patients with intramuscular injection of metucarbamul medicine , who had entrance merit or standards of our study through crossing and randomized method , as we put them into two groups . the researcher extracted 5 cc of this medicine by syringe needle as code No.21 , and after forcing out air through syringe needle , he changed the needle , and put the labeled code " 1 " (injection with needle changed or " interfering Group "), Then repeated This process, but not change its needle , and Labeled it code " 2 " (injection without needle changed or " control Group ") after That , in following he defined which code (1 or 2) is used for the first injection by Heads or Tails way . Therefore, method of injection and syringe code of second injection was contrary with the first one. Duration of second injection was 20 min after the first one.

Analyzing information of this research has done via single **T** statistics testing and **SPSS 21** software program.

There is a significant difference between two injection methods with one / two needle. (P=0.002).

Intramuscular injection with two needles changing in comparision with one needle causes less pain.

Keywords: Pain, intramuscular injection, two needles, one needle.

INTRODUCTION

Pain is a multi – dimension component, which is a discomfort sensational and sentimental experience that related to several factors, along potential or actually injuries. Control of pain is an important process of nursing care, so That, American pain association consider it as the fifth vital signs, and has emphasis on it. In This regard, using interfering method to reduce pain is an important role of nursing care for Nurses. Intramuscular injection consider as a simple , fast and effective method to supply medicine for patients , that in this way , we ensure of taking all medicine and systematic absorption completely , also , its effect speed is more than under skin injection and comestible . Who (world Health organization) has appraised that happens 16 million Intramuscular injection each year, but this event is a simple process from the view of Nurses. One of the most prevalent factors on making pain is skin scuttle by needle, in order to injection medicine. This kind of injection considers as a painful and uncomfortable process on patients, and most of them think that it is a stress and undesirable precept. On a done study, we, ve found that **%40** of Intramuscular injection patients think, it is a painful affair. The obtained results showed that lacking of enough proficiency and incorrect injection cause negative impacts on patients, such as: damage on muscle, paraplegia, foot stagger, infection and sciatic nerve hurt. from the view of Quality of doing Intramuscular injection , most of Nurses use old information of guideline books and their own experiences , and since , making changing on accustoms and empirical believes is very difficult , so , they do not pay attention to done research results , on the other hand , having proficiency on injection may reduce patients ' undesirable scense and pain experience . As such, today s, defining standards for nursing function and taking care of patients on organizations, especially on therapeutic health organizations is a vital and mandatory issue. On a research, that is done by AZARBAZIN et al (2008) , it showed that **%55**of Intramuscular injection

has been done by following the standards of Intramuscular injection level. Most of authors of these research s believe that this gap is because of Nurses ' default on injection , and through using research results and the other findings , they have found that doing more research in this scope is necessary to increase Nurses proficiencies . Since decrement pain of patients is the primary action to access into this purpose, so Nurses should increase their skill to cut down patients, pain. There are several methods and research s to reduce pain on Intramuscular injection like. The effect of acupressure medical on pain resulted from injection, the effect of injection as air locking, using ventrogluteal muscle instead of Dorsogluteal muscle, changing the size of needle in order to reduce pain, the effect of music and medicine injection speed, that its main purpose is obtain a unit method to do Intramuscular injection with lowest pain and side effects. Because of this fact, regarding to use some actions like utilization of ventroglnteal muscle injection and air locking method are the most effective method on pain relief, and is recommended on the most studies.

But there is a dissidence in this field , that shows less research s has done about needle changing after extracting medicine from ampoule or vial before doing injection , in order to relief its pain Michael et al (2000) suggested needle changing before injection as an effective method on pain reliefing on Intramuscular injection.

While, based on rock et al (2000), this method does not have any effect on pain reliefing . Also , obtained results from the other research show that needle changing causes lacking pain and the other effect – sides as inflammation and rube faction and bruising , because of sharpness needle head , and medicine will not remain on the tip of needle , therefore , patient does not feel any pain . since , entrance of tardy needle into tissue encounter by making resistance and as a results makes pain on patient , also a tardy or not polished needle on injection causes skin injury and more pain , because of gaining more splutter of sitokin from cratinosits , and leads into celluar edema around vessel and pain intensification on injection spot , and making effect – sides . So, needle changing before injection along omission some operational errors may impact on injection pain . Thus, regarding top matters and some available contraventions on obtained results of different research s, and considering some Nurses experiences, which are in charge of injections, we have found that extracting medicine from ampoule and

remaining of medicine on the head of needle causes needle dullness and feeling more pain in patients. This research is done to study the effect of needle changing on severity of pain resulted from muscular injection of metucarbamul medicine in female patients.

MATERIAL AND METHODS

Sampling method was this way that researcher identified women who had Intramuscular injection of metucarbamul medicine , and had Quality of entrance to our trial , through referring ABADAN TALEGHANI Hospital on afternoon and high t shifts , then by catching testimonial , begins his study. So that , he extracted 5 cc metucarbamul medicine on a syringe 5cc with needle code 21 , after forcing out air , he changed this needle with another needle , and labeled it code " 1 " , then , extracted next 5cc the same medicine and needle code , and after forcing out its air , does not change syringe needle , and labeled it code " 2 " (code " 1 " for injection of interfering group and code " 2 " for injection of control group).

After that, defined which code (1 or 2) is used for the first injection through heads or tails way. Therefore, method and syringe code of second injection was contrary with the first one. Since, after 30 minutes of the first injection of metucarbamul medicine, based on obtained results of several studies, its effect will turn up, and 15 minutes after that, pain of injection will disappear . Therefore, duration of second injection is fixed 20 minutes after the first injection. All injection was done by a Nurse female and skilled, who was trained injection method of who, before starting our trial, on a session, so that, all injections were done on top one forth and outside section of dorsogluteal muscle, while injection, skin was pulled and needle was injected with 90 ^{0} angle, and injection speed of medicine has been 1cc in 10 second. The place of injection was cleaned by an alcohol pad, then, after drying alcohol, injection was done by needle 21. Immediately, after finishing injection, another skilled Nurse, who not aware of doing injection method, measuring patient pain through using eye analog tools. It means that patient showed her pain severity numbering form 0 to 10, which zero indicates non pain, 1-3 means low pain, 4-6 shows average pain, and 7-10 indicates severe pain. It is worthy to mention , that this scale is use in several research s and has durability **0.9.**moreover , women who had bruising , injury , and inflammation on injection area , or had diabetes , **25 < BMI < 19,** or injection on the same area during a week , orb were not completely conscious , they were omitted from study.

FINDINGS

We found out that these individuals, from the view of their education states: 35.6 percent of them had diploma, 63 percent were under diploma, and 1.4 percent of them were Licensee. Their job states were: 75.3 percent housewife and 24.7 percent was employee. Their age average was 42/67 ± 11/35, the lowest age was 18, and the highest age was 58. Average of samples corporal mass was 24/13 with deviation measure 1.06, and minimum amount was 19/03 and maximum amount was 25.

Regarding **T** testing, average of pain induced by using needle for injection was 3/39 and its deviation measure equals 2/33, and in injection with two needle observations, we found that this way has Lower average equals 2/46 and deviation measure 2/01 than the first Group. The difference among pain induced by injection of 1 needle and 2 needles was 0.93 units. It means that injection with one needle had more pain than 2 needle method. This difference amount has 2/4 unit decrease / increase, because its deviation measure was 2/4 unit, t testing statistics with freedom gradation was 72 times 3/26 unit, and its significant level was 0.002, which is Lower than %5 Error. SO, we deduced that injection with one needle has more pain than injection with two needles. 41 of 73 sample had positive difference , or in the other hand, for 41 people , there were more pain after injection with one needle than injection with two needle , and for 10 women , this pain has been the same , and for 22 women , this pain has been more in injection with 2 needle than 1 needle . However, most of patients had less pain in injection with 1 needle, and its testing significant level with testing statistics amount – 3/16 was 0.002, that was lower than %5 errors. Therefore, injection with 2 needles had lower pain than 1 needle injection. on the other hand , regarding obtained results , there was not any relationship between job , age , education level , mass measure , and feeling pain level on 1 and 2 needle method.

DISCUSSION

Since, the value of metucarbamul medicine is 10cc, and should injection two syringe 5cc simultaneity, there was possibility to define pain amount in these two condition through using one needle and two needle injection for researcher. It means that evaluating the severity of pain was done by own patient in both methods.

And this is subsidiary this fact that factors like patients pain threshold , environment condition , background illness , race , age , sexuality , patient stress , fatigue on both injection methods is the same , and regarding

fixing the other injection methods like place and method of injection are the only variable on injection for changing needle . So, study the severity of pain on patients should be done more carefully and its results will not be under impact of various factors anymore, therefore, results are correct. The amount of pain in using one needle in comparisons with two needles at 0.93 grades has been more, thus, colmograph testing results with significant level 0.002 shows a significant statistics difference among these two methods. Means one needle injection has higher pain than two needle injection for patients. on a study done by Agac et al (2011), in order to define effect of changing needle to relief pain of intramuscular injection on turkey showed that the amount of pain of patients has been reduced intensity after needle changing , which shows recent study results is the same as our study results . On another research of rock (2000) , in order to study scrubbing medicine on injection area pain between two groups with one / two needle injection showed that there is not any difference between them.

Therefore, these results are contrary with our results. On the other hand these Groups on Rock study were from two sexuality and the other personal factors like the amount of pain , past experience of pain , age , sex , race , and fatigue might have impact on obtained results , while , in this research and Agac and his et al , the level / severity of pain was compared with themselves yet. However , on busary et al (2004) , there were difference between pain severity among individuals , but not because of changing needle thus, regarding these various studies as it is reflected on Busary ' s study , severity of patients ' pain on control Group is measured after one month and duration of a long time may impact on reminding of severity of pain , while , in this research , pain severity of patient was measured after 20 minutes past injection . Regarding obtained results of this research, one might deduce that needle changing before Intramuscular injection may impact on relieving pain.

DEDUCTION

Based on obtained results , we have found that using needle changing method before doing Intramuscular injection have a remarkable impact on relieving pain , while , this way was as a combined method to relief pain . So, this method makes patients to bear less pain. On the other side, this is the patients; right that not bearing severity pain in their careness and therapy. As such, it recommended Nurses to have training about

extracting Medicine and change needle before Intramuscular injection.

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APPENDIX

Pain severity abundance on Intramuscular injection

Severity pain	One needle injection	Two needle injection
0: Lacking pain	%8.2	%15.1
1-3: Low pain	%50	%50.17
4-6: average pain	%26	%31.5
7-10: acute pain	%15	%2.17

Table (8) – Comparision of pain severity induced by injection method with one and two needle through pair T testing

	p value	Deviation measure	Sample volume	Median
pain severity with one needle	0.002	2.33773	73	3.3973
pain severity with two needle		2.01441	73	2.4658

Comparision pain severity induced by injection method with one needle and two needle through wilcoxon testing

Pain severity difference in both methods	Ranks	Number	Rank average
Pain severity by using one and two needle changing	Negative Rank	41 [a]	35.71
	Positive Rank	22 [b]	25.09
	The same	10 [c]	
	total	73	

A: pain severity by using 2 needle < pain severity by using 1 needle.
B: pain severity by using 2 needle > pain severity by using 1 needle.
C: pain severity by using 2 needle = pain severity by using 1 needle.

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