

## TECHNIQUES AND APPROACHES TO OVERCOME THE INJECTIONS-RELATED FEAR<sup>15</sup>

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***Abstract:** The purpose of this update is to provide a comprehensive and pragmatic overview of the specific factors that are associated with fear of needles and injections. As an indispensable medical procedure, the precise identification of the reasons that trigger fear of injection could influence and improve the future health care delivery system. In the current work techniques and approaches of reducing the needle-related fear and stress, anxiety and avoidance behavior are introduced. Aim of the study is to investigate and evaluate the effects of cryotherapy, helper skin tapping technique, Z-track technique, the crucial component “soft skills” in midwifery on injections-related fear intensity among pregnant women, parturients and women with gynecological diseases. Utilization of exposure-based interventions, incorporation of coping strategies and teaching of health care receiver, could prevent a progression from fear of needles to more severe needle phobia. The objective of the authors’ study is to reveal the procedural needle-related distress as a complex phenomenon among pregnant and parturients. A conclusion is made in the context of the midwife-patient relationship and midwife’ emotional intelligence that enables the provision of suitable preparation before injection procedures that is essential for reducing needle puncture pain and associated anxiety. Comprehensive education is necessary in order for midwives to be up-to-date with the complex evolution of healthcare considering that midwives play a pivotal role throughout women’ lifetime, observing obstetric status of any kind.*

***Keywords:** needles, injections, phobia, obstetric care, midwifery*

### **INTRODUCTION**

Nowadays the injection process is an indispensable manipulation in the daily medical treatment associated with penetrating a syringe with a needle into the skin and withdrawing or delivering fluid to the body. The invention of the syringe dates back to antiquity. Its modern design has undergone many technical innovations in line with advances in medicine. But the fear of the needle, the stings, the injections, still exist today. Needle phobia has been described in the literature using interchangeable definitions such as belonephobia (fear of needles and pins), trypanophobia (fear of injections), and aichmophobia (fear of sharp, pointed objects) according to the Encyclopedia of Phobias, Fears, and Anxieties (Ronald et al., 2009). Names that are actually technically incorrect because they denote simply a “fear of pins and needles” and do not refer to the medical aspect of trypanophobia (Raghvendra et al., 2010; Khan et al., 2015). In case of some individuals, this fear may be severe enough to report a diagnosis of specific phobia, blood-injection-injury (BII) type, referred to as “needle phobia”. Needle phobia now being included under the diagnostic category of BII phobia in American Psychiatric Association’s Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (Khan et al., 2015; Du S et al., 2008). There are medications that can only be taken by injection or in drops. There are situations in which delays

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could cost the patient's life, namely injection is the best way to quickly deliver the right medication to the health care receiver's body.

## EXPOSITION

The procedure of needle injection is a routine procedure playing a central role in healthcare settings, thus fear of needles may be a barrier to access good medical care, avoidance of disease prevention and medical treatment.

The usage of different types of injections during pregnancy, childbirth and the postpartum period has proven over time its benefits for the health and life for both mother and newborn. During these periods of a woman's life, hormonal and physiological changes occur in her body. She is often emotionally unstable, hesitant, and prone to anxiety and depression. Furthermore, the woman's fears to the point of phobia are neglected and not analyzed and the sufferers react with "escape" - avoiding the "risk situations" they feel at every opportunity. The fear remains a significant obstacle in medication administration and may thus interfere optimized treatment. Pregnant women with this fear show a tendency of avoiding regular controls which may include taking samples by using needle, a relatively low degree of trypanophobia could occur. The recognizing of unreasonable and disproportional fear is of great importance because could have serious health consequences such as avoidance of necessary medical care with subsequent adverse complications (Milanovic et al., 2017).

Needle fear, an anxiety disorder affecting 3,5% to 10% of the general population (Ramadan et al., 2016). The literature shows that needle phobia decreases with age, while it is higher among females than males (Nir et al., 2003). Avoidance of treatment when an injection was needed was 6,7% for dental treatment and 5,2% for medical treatment. The needle-related fear can be an obstacle in providing adequate medical care including medical examinations, management of chronic diseases, vaccinations (Vika et al., 2006). Studies conducted by medical professionals prove that acute forms of phobias lead to the use of general anesthesia (having the opportunity for spinal anesthesia), failure to perform the necessary blood tests, barriers to the treatment of high-risk pregnancies and others (McAllister et al., 2012).

Symptoms of *trypanophobia* include profuse sweating, high blood pressure, tremor, muscle weakness, palpitations, dry mouth, nausea, dizziness, suffocation, insomnia, obsessive thoughts, and a desire to escape. In some cases, this disorder can have serious health consequences, especially in pregnant and postpartum women.

Scientists in psychology and medicine are looking for the causes of trypanophobia. A study found that one of the prerequisites is poor quality of medical care, tactless attitude of medical professionals to patients and complications after treatment with injections (Nir et al., 2003).

A conclusion is made that trypanophobia is caused by negative social factors, psychological trauma and genetic characteristics.

Medicine is always looking for methods to help the patient overcome fear and pain. They are correlated conditions that can have negative effects on human health. Their effective control not only alleviates the discomfort that is considered a central concept in the art of nursing and midwifery, but also improves the patient's quality of life. According American pain society, Pain is referred as "the fifth vital sign" to stress its significance and to improve attention of health care professionals about the importance of effective pain management strategies, as well as continuous assessment (Potter et al., 2005 and Zore et al., 2014). Various relaxation techniques that can help with mild trypanophobia are analyzed - muscle relaxation, imaginary relaxation, deep breathing, autogenic training and others. Psychological treatments of specific phobias focus on altering the tripartite components of the pathological fear response (i.e. physiology, behavior, and cognition), as well as the overall subjective experience of fear (Davis et al., 2005). They reported that the greatest effects in improving the condition were observed with distraction, visual and audio examples. To overcome the fear of intravenous infusion placement process, a three-step model was introduced: relaxation, control, and gradual exposure.

### **Techniques for overcoming the needle-related phobia:**

#### **Cryotherapy – cold application, cooling.**

An experimental study was conducted in New Delhi on effect of cryotherapy. Outcomes demonstrated that subjective pain scores were observed to be significantly reduced with the use of cryotherapy. Cryotherapy is generally named as cold application and expands the pain threshold and decreases the inflammatory response and spasm. It is regularly utilized as a part of the treatment of acute soft tissue injuries and has been appeared to reduce pain effectively, ice only needed to be applied for 30 seconds. The same source cites, technique has been successfully applied for ten years and prescribes 2 to 15 min cold. The most well-known techniques for cold application incorporate cold packs, cold immersion, ice massage, vapocoolant spray (Farhadi et al., 2011). Contingent on the application technique, the essential physiologic impact incorporates, diminish local metabolism, lessened oedema, decreased haemorrhage and reduced muscle activity (Black et al., 2009).

#### **Helfer skin tapping technique effect on pain intensity among patients who receiving intramuscular injection**

In 1998, Ms Joanne Helfer made an attempt to alleviate pain due to intramuscular injection by developing 'Helfer Skin Tapping technique' in which tapping of the skin over the injection site. It is an accepted fact that there is reduced pain in giving injection into a relaxed muscle because tapping gently over the skin is considered one of the various techniques to keep the muscles relaxed. As well as, Helfer skin tapping technique is one of the mechanical stimulation over the skin that can alter the balance between the small diameter fibers that carry pain to the brain, and the large diameter fibers that do not carry pain. The large diameter non-pain fibers block the slower small diameter pain carrying fibers (Serena, 2010).

In Helfer skin tapping technique, the researcher taps the muscle which is intended to use with the palmar aspect of fingers 16 times in rhythmic manner before the insertion and 3 counts while removing the needle during intramuscular injection, Figure 1.

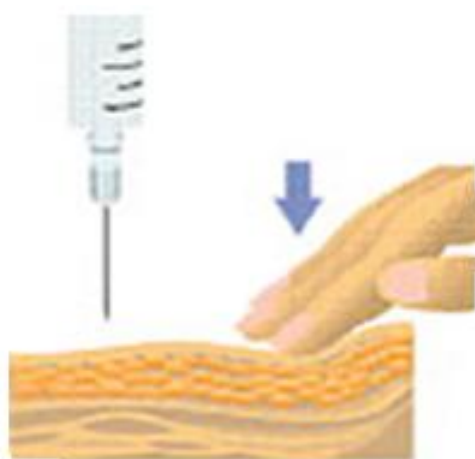


Figure 1. Helfer skin tapping technique

#### **Z-track techniques effect on pain intensity among patients who receiving intramuscular injection**

Using the Z-track technique, the skin is pulled laterally, away from the injection site, then the medication is injected, the needle is withdrawn, and the skin is released. It is a technique in which the skin and the subcutaneous tissue are pulled and held to one side 2,5-3,75 cm laterally before the needle is inserted deep into the muscle tissue. The medication is injected at which time the needle is removed and the tissue are quickly permitted to resume its normal position. Although it is not always used in practice, research evidence does support its effectiveness and recommends its routine use, figure 2 (Lynn, 2011 and Jane, 2010).

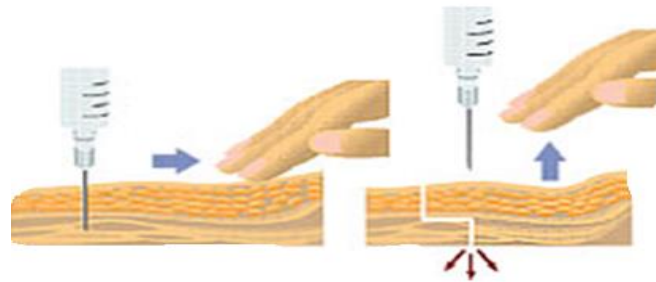


Figure 2. Z-track technique

### **Breathing technique to calm anxiety**

For good health and stress control, proper breathing training is provided. Six or eight deep breaths per minute are recommended (most people breathe more than 20 times per minute). Inhale slowly and deeply through the nose and exhale slowly through the mouth. Anxiety is exhaled.

### **Cognitive behavioral technique (therapy)**

Fear of injections, characterized as a phobia, is classified as an anxiety disorder. For a pregnant woman, this poses an increased risk of adverse outcome. Unfortunately, it is relatively unexplored in the scientific medical literature due to neglect. Psychologists use exposure therapy or desensitization. It is a collision with the object of fear. They provide a sterile syringe with a needle and a demonstration of how to insert it. This technique is not suitable for pregnant and postpartum women, as well as hypnosis techniques.

### **Attention distraction techniques**

Listening to music, watching videos, playing a mobile app help to shift the focus to the needle. If the pain is the cause, analgesic creams and patches are offered (after consulting a doctor).

### **Needle-free technique. Needle-free injector.**

Although practical, complications from the widely used method of drug administration, such as infection, pain, and trypanophobia, have served as a motivation for the development of a new method to deliver drugs through the skin. It works by forming a jet of the drug through very strong and at the same time high pressure. The needleless syringe is available from several manufacturers, but still at a very high price. (Mali et al., 2013).

### **Approaches to overcome injection-related fear:**

#### **Professional communication**

The profession of midwife can be defined as a "communicative" profession. One of her main tasks was related to the midwife's ability to build effective professional relationships, to motivate the woman for active participation and assistance in the process of obstetric care, to maintain a systematic emotional connection with her, to achieve proportionate emotional support, to reduce pain and anxiety, to inspire confidence, to teach her and to help her maintain appropriate health behavior (Hristova, 2017). Appropriate communication and communication, tailored to the individual characteristics of the patient, can provide help and support in self-help.

#### **Emotional intelligence and „soft skills”**

The closest person to the pregnant woman, from her hospitalization to discharge, is the midwife. She performs most of the manipulations. The pregnant woman is in a passive, fear and stress, position of the patient. Of particular importance is medical help concerning not only the somatic condition but also the emotional response of the medical staff. When the emotional reactions of patients are not paid attention to, even if they continue to take adequate care of their physical condition, a problem arises. Disregarding the emotional reality of illness does not take into account the accumulating evidence that people's emotional states can sometimes play a significant role in their predisposition to give in to illness and fears or in their ability to recover from them. Training in emotional intelligence, in the so-called "soft skills" - empathy, hearing,

work ethic, is a factor that allows the midwife to remain sensitive in contact with the pregnant woman ( Donkina et al., 2012).

### Appropriate body position

The midwife (nurse) should not prepare the syringes and aspirate the medicine directly to the patient. The patient is helped to take an appropriate position, comfortable body position. It is desirable for the limbs to be in a calm and relaxed position, without tension and muscle spasm. During the injection manipulation, a conversation is held with a different focus. When performing venous manipulations, it is possible to play gentle music.

### Multidisciplinary educational approach

A team of medical scientists is conducting a study in Brazil on the frequency of fear of punctures and needles in pregnant women with gestational diabetes and the impact of a multidisciplinary educational approach. Pregnant women who develop diabetes during pregnancy should take insulin and test themselves daily. Insulin therapy is essential for this condition, as is glycemic control. Fear of self-injection is measured as a phobia and can seriously affect the condition of women who refuse to do so. The multidisciplinary training approach covers two weeks, with a team of endocrinologist, obstetrician-gynecologist, midwife, diatologist and social worker. They make periodic home visits to pregnant women at risk. They teach her how to inject insulin, perform a control test, determine a diet, introduce her to risk factors. Specialists also train family members for emergency measures in hypoglycemic episodes. It is concluded that a multidisciplinary educational approach can reduce the fear of needles and stings in pregnant women with diabetes on insulin therapy (Feitosa et al., 2013).

### Significance of the study:

*Aim:* identification of fear of prick and injection in pregnant women and parturients, causes and approaches to relieve anxiety.

### Operational methods:

Through a direct, author's survey, data were collected from 20 women in inpatient treatment at MBAL Kanev, in April, Ruse, 2021. The survey contains questions about the presence of fear of injections and midwives' ability to overcome the condition.

### Analysis of the answers of the respondent group:

The participants in the study were women with pathological pregnancy (12) and women in labor (8). They are aged 19 - 27 years. By level of education, women with secondary and higher education are almost the same number, 9:11 (secondary: higher). Respondents willingly participated in the survey and gave detailed answers to the questions asked. Despite the small group of respondents and the short time for conducting the survey, the data for analysis turned out to be detailed and sufficient for indicative conclusions of the problem.

When asked if there was a fear of punctures and injections, 75% of patients answered in the affirmative. Only 10% are not afraid. The causes of anxiety are reflected in the following Figure 3.

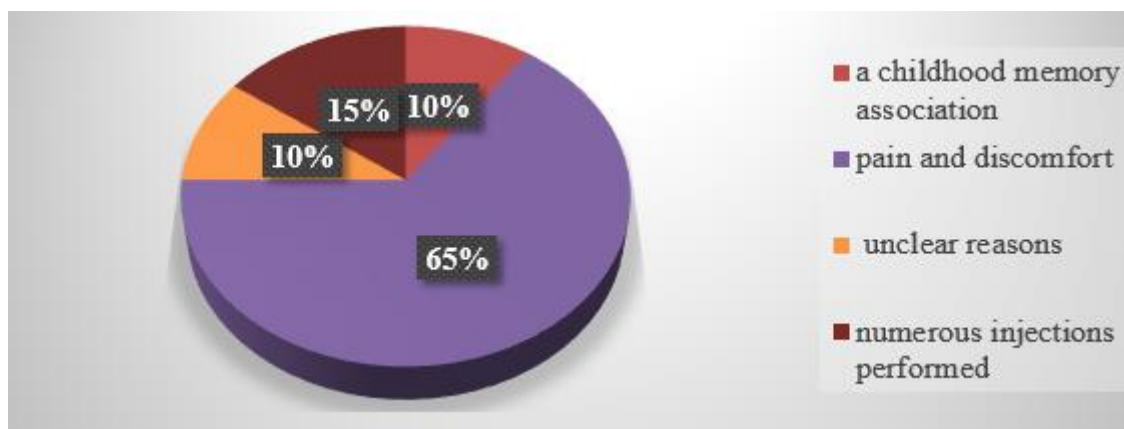


Figure 3. Reasons for injection-related fear, according to respondents

The most numerous are the answers that register that fears are the result of pain and discomfort (65%). Patients with concomitant diseases and pregnant women at high risk explain their reasons for fear by performing multiple injections.

Some women say they self-medicate their fears by "not looking at the needle," watching TV or listening to music. More than half say they do not want the midwife to explain the injection procedure in detail, but they need to communicate with her. Obstetric communication is the necessary therapy against the fear of stings and injections for 80% of respondents. Communicating with warmth and empathy, with trust and empathy will relieve anxiety - this is reflected in almost all pregnant women and parturients.

## CONCLUSIONS

There are no definite conclusions that there is a technique or an approach that is highly significant in reducing fear, anxiety and phobias about needles and injections. There are no definite conclusions that there is a technique or technique to help against fear, anxiety and phobias about stings and injections.

Mastering and practicing techniques will prevent the progression of the condition into a phobia. Providing pain relief is considered a basic and fundamental requisite of human rights. Nurses and midwives have professional competencies, legal and ethical responsibilities for controlling and dealing with patients' pain. Its effective control not only relieves discomfort, which is considered a central concept in the art of nursing and midwifery, but also improves the patient's quality of life. Mastering and practicing techniques will prevent the progression of the condition into a phobia.

The midwife is the health care professional who has been with the woman throughout her life. This is a responsibility that requires continuous improvement and upgrading of knowledge and continuing education.

## REFERENCES

Black, J.M., & Hawks, J.H. (2009). *Medical-Surgical Nursing: Clinical Management for Positive Outcomes* (8th ed.). Elsevier/Saunders. Philadelphia

Davis, T. E. III, & Ollendick, T. H. (2005). *Empirically Supported Treatments for Specific Phobia in Children: Do Efficacious Treatments Address the Components of a Phobic Response? Clinical Psychology: Science and Practice, 12*(2), 144–160.

Doctor, Kahn, & Adamec, (2009). *Encyclopedia of Phobias, Fears, and Anxieties*. URL: [https://books.google.bg/books?hl=en&lr=&id=E2imSyZZDh0C&oi=fnd&pg=PR3&dq=Doctor,+Kahn,+%26+Adamec,+2018\).+Encyclopedia+of+Phobias,+Fears,+and+Anxieties&ots=6x82bKv-83&sig=kGac87\\_IEINYj7zL6BzbQdb\\_TTg&redir\\_esc=y#v=onepage&q&f=false](https://books.google.bg/books?hl=en&lr=&id=E2imSyZZDh0C&oi=fnd&pg=PR3&dq=Doctor,+Kahn,+%26+Adamec,+2018).+Encyclopedia+of+Phobias,+Fears,+and+Anxieties&ots=6x82bKv-83&sig=kGac87_IEINYj7zL6BzbQdb_TTg&redir_esc=y#v=onepage&q&f=false)

Donkina V, Doinovska R, (2012). *Emotional Intelligence and Psychological Literacy in Nursing*. URL: [https://www.researchgate.net/publication/348233487\\_EMOTIONAL\\_INTELLIGENCE\\_AND\\_PSYCHOLOGICAL\\_LITERACY\\_IN\\_NURSING](https://www.researchgate.net/publication/348233487_EMOTIONAL_INTELLIGENCE_AND_PSYCHOLOGICAL_LITERACY_IN_NURSING)

Du S, Jaaniste T, Champion GD, Yap CS. Theories of fear acquisition, 2008. URL: [http://ppl.childpain.org/issues/v10n2\\_2008/v10n2\\_yap.shtml](http://ppl.childpain.org/issues/v10n2_2008/v10n2_yap.shtml)

Farhadi, A. & Esmailzadeh, M. (2011). *Effect of local cold on intensity of pain due to penicillin benzathin intramuscular injection*.

Feitosa, Alina Coutinho Rodrigues, Sampaio, Luciana Nunes, Batista, Ana Graciele Lessa, & Pinheiro, Carla Borges. (2013). Frequency of fear of needles and impact of a multidisciplinary educational approach towards pregnant women with diabetes. *Revista Brasileira de Ginecologia e Obstetrícia, 35*(3), 111-116. <https://doi.org/10.1590/S0100-72032013000300004>

Hristova, Ts., (2017). *Special Care in Pregnancy, Nursing and Midwifery Manual*. (Оригинално заглавие: Христова, Ц., 2017. Специални грижи при нормална бременност, Наръчник за акушерки и медицински сестри, МЕДИАТЕХ – Плевен)

International journal of medicine and medical science vol.3 (11), p.p 343-345. Available at: <http://www.academicjournals.org/>

Jane D., (2010). *Z-Track Method*. Available at: <http://nursingcrib.com/nursing-notes-reviewer/fundamentals-of-nursing/z-track-method/>. Derived on: 15/6/2016.

Khan F, Memon B, Ur-Rehman H, Muhammed SS, Ali A. *Prevalence of needle phobia among young patients presenting to tertiary care government hospitals of Karachi, Pakistan*. *Int J Res* 2015; 2:127-35.

Lynn, P. (2011). *Photo atlas of medication administration (4th ed.)*. Philadelphia, PA: Lippincott Williams & Wilkins.

Mali S, Gorde S, Thorat J, Salunkhe S et al., (2013). *A Rational Approach to Needle Free Insulin Technology, Department of Pharmaceutical Technology, Bharati Vidyapeeth College of Pharmacy, Near Chitranagari, India*

McAllister N, Elshtewi M, Badr L et al., 2012. *Pregnancy outcomes in women with severe needle phobia*. *European Journal of Obstetrics & Gynecology and Reproductive Biology*. Volume 162, Issue 2, p.p.149-152, June 2012

Milanovic B., Tomovic D., Jankovic M., Grubor Iva, Nikolic L. et al., (2017). *Factors Influencing the Fear of Needles among Students of Medicine and Pharmacy; Faculty of Medical Science, Serbia*. URL: <http://scindeks.ceon.rs/article.aspx?artid=0351-60831702147M>

Nir Y., Paz A., Sabo E. & Potasman I., (2003). *Fear of injections in young adults: Prevalence and associations*. *The American Journal of Tropical Medicine and Hygiene*, 68(3).341-344

Potter PA, & Perry AG. (2005). *Fundamentals of nursing Concepts, Process and Practice*. 6th ed. New Delhi: and Zore & Dias, 2014. Elsevier publications; USA, p. 25-9

Raghvendra, Tyagi P, Yadav P, Saxena S, Dodia RA, Patel TD. *Trypanophobia-an extreme and irrational fear of medical procedures: An overview*. *Int J Pharm Sci Rev Res* 2010;4: 18-21. URL: <https://www.diva-portal.org/smash/get/diva2:1058374/FULLTEXT02.pdf>

Ramadan R., El-Fouly Y., Sharaf W., Ayoub A. (2016). *Effect of Cryotherapy on Pain Intensity among Adult Patients Receiving Intramuscular Injections*. *IOSR Journal of Nursing and Health Science, Volume 5, Issue 2 Ver.2 (Mar.-Apr.2016)*. URL: [https://scholar.cu.edu.eg/sites/default/files/amanyasalama/files/3.\\_cryotherapy\\_mn\\_slmh\\_ywb-lbth\\_lthlth.pdf](https://scholar.cu.edu.eg/sites/default/files/amanyasalama/files/3._cryotherapy_mn_slmh_ywb-lbth_lthlth.pdf)

Ronald M, Kahn A, & Adamec C, (2009). *Encyclopedia of Phobias, Fears, and Anxieties*. URL:

[https://books.google.bg/books?hl=en&lr=&id=E2imSyZZDh0C&oi=fnd&pg=PR3&dq=Doctor,+Kahn,+%26+Adamec,\(2018\).+Encyclopedia+of+Phobias,+Fears,+and+Anxieties&ots=6x82bKv-83&sig=kGac87\\_IElNYj7zL6BzbQdb\\_TTg&redir\\_esc=y#v=onepage&q&f=false](https://books.google.bg/books?hl=en&lr=&id=E2imSyZZDh0C&oi=fnd&pg=PR3&dq=Doctor,+Kahn,+%26+Adamec,(2018).+Encyclopedia+of+Phobias,+Fears,+and+Anxieties&ots=6x82bKv-83&sig=kGac87_IElNYj7zL6BzbQdb_TTg&redir_esc=y#v=onepage&q&f=false)

Serena, Sr. (2010). *Rhythmic skin tapping: An effective measure to reduce procedural pain during intramuscular injection*. *The Nursing J of India*; Aug; 1(8):22-6

Vika M., Raadal M., Skaret E. & Kvale G., (2006). *Dental and Medical injections: Prevalence of self-reported problems among 18-year-old subjects in Norway*. *European Journal of Oral Sciences*.122-127

Zore G, & Dias R. (2014). *Effectiveness of Nursing Interventions on Pain Associated With Intramuscular Injection*, *International Journal of Science and Research*. Volume 3 Issue 6, June 2014