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RESEARCH ARTICLE

Chronic-Post Operative Pain.

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Abstract

Background: Majority of the patients suffering from chronic post-surgical pain have the assumption that the surgeon made an error or that something went wrong. In this study we will focus on the risk-factors and other dimensions of chronic post-operational pain that could help reduce the number of patients afflicted by the illness.

Objective : to reduce the post operative pain , This paper will also focus on the risk-factors and other dimensions of chronic post-operational pain that could help reduce the number of patients afflicted by the illness.

methodology : This study used secondary data, which is data that is already collected and recorded by another person that is readily available from other sources

Results : Chronic post-operative pain remains a common occurrence . Enhancing the control of acute post-surgical pain is among the strategies that can go a long way in the forestalling of chronic post-operative pain

Conclusion: Chronic post-operative pain remains a common occurrence. In the past few decades, the research standard has markedly developed although much work still needs to get done, mostly in the areas of risk factors and mechanisms

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Introduction:-

One of the first papers discussing chronic post-operative pain was by Crombie et al. (1998). It is important to note that the research standard with regard to outcomes was quite poor. An example of such a study was one research that was done with the aim of identifying the repercussions following a hernia surgery. The methodology section showed ways of performing a hernia repair but did not indicate the number of patients that were used as subjects in the study. The issue of pain was totally ignored in the study.

In the past decade, there have been many great papers and one of the important observations is that one study in the British Medical Journal that reviewed inguinal hernia. In Wallace et al. (1996), the researchers mention that chronic pain is among the most serious yet common issue that afflicts patients in the long term following the surgical repair of inguinal hernia. This study among others shows the acknowledgement of chronic pain as one of the important outcomes of surgery.

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Research from the recent past shows that there is a shift in emphasis from just counting the subjects in the study to actually examining the risk factors as well as the likelihood of prevention.

Objectives:-

The purpose of this paper is not to do what other papers have tried to do in the past, but to use recent publications to show areas that are controversial and interesting. This paper will also focus on the risk-factors and other dimensions of chronic post-operational pain that could help reduce the number of patients afflicted by the illness.

Research Problems:-

There are a number of problems that arise in the study of chronic post-operational pain. The first involves the definition or the original problem-definition (Turk et al., 1999). The following are some of the characteristics of chronic post-operational pain. First, the pain needs to be the outcome of a surgical procedure. Second, the pain must have lasted for not less than two months. Third, other things that could have caused the pain need to get excluded, such as persistent malignancy after a cancer surgery or persistent infection. Finally, the likelihood that this pain is a continuation of a pre-existent problem needs to be considered and an attempt made at excluding it. This is a grey area in surgery because the surgery itself may increase the effects of a pre-existing condition, causing a lot of pain.

If the numbers shown above are accurate, then pain clinics should get a huge number of such individuals. It remains critical to remember that research on the effects of surgery where prolonged pain is primarily under study find a greater incidence than cases where it is not. Could it be that patients fail to mention chronic post-surgical pain until they are asked or is it that such studies overestimate the incidence? In case the incidence of chronic post-surgical pain is as high as other studies portray it to be, then what happens to these patients? Could it be that they are suffering silently or receiving the appropriate primary care?

Mechanisms:-

Very little is understood regarding the mechanisms of chronic post-surgical pain. Different pain syndromes result from different mechanisms even when considering the same operation. For example, after the amputation of the lower limb, patients may experience different kinds of pain such as stump pain, phantom pain or back pain. It is clear that majority of the syndromes are neuropathic and are the outcomes of changes to the nervous system following the injury. Surgery needs to be considered as an injury, but one that is performed for beneficial reasons.

Literature Review:-

Majority of the patients suffering from chronic post-surgical pain have the assumption that the surgeon made an error or that something went wrong. Normally, this is not the case and it shows that educating patients on chronic post-surgical pain would go a long way in helping them deal with the problem. Patients who normally feel that the reason behind their chronic pain is the result of a mistake made during the surgery usually suffer from more distress and behavioral disturbance. Moreover, they respond poorly to medication while having low prospects of success with regards to future medications.

According to Turk and Okifuji (1999), patients who hold the belief that they got injured during the surgical procedure suffered from lower pain thresholds, deconditioning, lower tolerance and lower activity. Eliminating the behavior of assigning blame can assist doctors and patients. It looks like long-lasting pain following an operation remains inevitable in a certain number of instances such as an infection to a wound. If this is the case and chronic post-surgical pain gets discussed in an open environment and is made part of the information that patients receive just before surgery, the grief that comes later will be avoided.

One of the area that requires particular attention is injury to nerves. It normally is presumed that nervous injury is the outcome of many neuropathic post-operational syndromes of pain.. According to Richardson et al. (1999), there is a point prevalence of neuralgia that occurs after thoracotomy.

A number of papers written by Nottingham et al. (2008) looked at this issue. The initial paper demonstrated that individuals with rib retraction in the course of thoracotomy get damage to intercostal nerves. The damage arises at a number of stages and may be the result of dispersion of the ribs, which is the outcome of ischemia, pressure that is applied directly as well as broadening. The next study found that long-lasting pain was not only common, but also resulted in a high level of ill health.

Chronic pain was linked to pain that was more chronic and persistent and had substantial impacts on the lives of the patients.

The suggestion in this case is that there is a more serious etiology for pain that arises after thoracotomy that is neuropathic to intercostal nerves alone. With regard to the pain following a mastectomy, Carpenter (1999) argues that the risk factor that is generally accepted of impairment to intercostobrachial nerves mainly remains circumstantial. In the study by Carpenter (1999), two individuals who underwent a lumpectomy procedure with no external dismemberment developed post-mastectomy pain syndrome. The case was the same for four women whose intercostobrachial nerve got spared. Several studies done on breast surgery have looked at the ramifications of preservation of the intercostobrachial nerve.

In another study, which was a controlled randomized trial, Abdullah et al. (1998) looked at the effects of maintaining or sacrificing the intercostobrachial nerve in the course of axillary allowance. The researchers discovered that for several reasons, the possibility of preserving the nerve was nonexistent.

After twelve weeks, the symptoms deteriorated for the two groups, but mostly within the group that had their nerves preserved. There were also two individuals who suffered from sensory-loss objectively and, thus, had no symptoms. On the other hand, patients that had sensory symptoms lacked a sensory deficit in an objective manner. Moreover, other studies show similar outcomes (Tasmuth et al., 1996). In one research that involved 38 patients suffering from ipsilateral pain in their arms following a mastectomy. Vecht et al. (1993) found that eight individuals among the patients were found to have pain after the surgery.

Every patient underwent a dissection in the auxiliary node and the researchers found another eight causes in the rest of the patients. A study conducted to examine patients who went through axillary operation though without any chemotherapy or radiotherapy showed no signs of recurrence. However, seventy percent of patients reported numbness while only thirty percent said that they felt pain. According to Polinsky (1994), 81% of the patients that underwent an axillary operation said that they felt numb. On the other hand, only 22 to 32 percent said that they felt pain according to the type of surgery.

A study done to compare the psychophysical examination of patients suffering from pain following a mastectomy procedure and those who felt no pain after undergoing the same surgery, Gottrup et al. (2000) discovered that patients in either group had lowered sensitivity to pinprick and thermal stimuli. There was a reduction of the pressure-pain threshold within the pain group. However, the pain-free subjects did not experience any change. Gottrup et al. (2000) then concluded that repetitive stimulation using pinpricks in the area surrounding the scar resulted in an increase in the intensity of the pain.

The intensity of the pain was linked with impulsive intensity of pain. The fact that the surgeons avoid major nerve trunks is not sufficient reason to avoid chronic post-operational pain. Moreover, the sectioning of nerves does not always lead to chronic post-operational pain. It is impossible to conduct operations without causing injury to parts of the nerve system at a certain point.

Risk Factors and Prevention:-

Whenever one intends to forestall an event, they would like to understand the factors that contribute to its manifestation. It remains unnecessary to totally understand the causation. Apart from Anesthetics, John Snow also pioneered the field of Epidemiology.

Methodology:-

A systematic review was conducted using an electronic search of Google Scholar, Medline, Embase, and Scopus to identify studies evaluating Chronic post operative pain. After choosing the relevant database, We included all types of study (Randomized Control Trials, descriptive and cohort studies). All the studies found based on the keywords and published between 1986 and 2013 and in English language were included in the review. In case the variables were incompatible with the core of this research paper, the papers were left out.

This would ensure that the findings and arguments of the authors quoted in this paper could be compared to find similarities and differences in the data... The researchers finally ended up with a set of 32 papers that met all the

above criteria and that were subsequently were used to come up with the following findings, discussions and conclusions.

Findings and Discussion:-

While it may be difficult to understand in detail what causes chronic post-surgical pain, it is possible to come up with strategies that lower its occurrence. It remains a mystery why among people who have undergone the same surgical procedure, some feel pain, while others feel no pain. The source of chronic post-operational pain is complicated. However, the thing that is known is that the chronic pain is related to injury as well as a function alteration. Nonetheless, psychological and social factors remain very crucial.

The occurrence as well as seriousness of serious pain following a surgical operation does not directly link to the magnitude of the procedure. According to Brandsborg et al. (2008), a number of research studies indicate that surgery in itself has a serious risk for causing long-term and chronic pain. This occurs after a serious procedure like a thoracotomy or amputation, but even following minor surgical operations as well.

The risk factors for chronic post-surgical pain can be classified into medical as well as patient factors. Every patient has a unique genotype, past experience, medical history, psychosocial circumstances and beliefs regarding the problem. Factors within the environment that act on the patient will include the anesthesia, type of surgery, perioperative analgesia as well as other treatments.

Demographic Factors:-

When it comes to hernia repair and breast surgery, an increase in age appears to lower the risk of experience chronic post-surgical pain. With regard to breast surgery, for example, patients of a younger age tend to develop tumors that are larger than that of people in their advanced years. Younger patients tend to experience long-term postoperative pain. According to Smith et al. (1997), an incidence of chronic pain following a mastectomy was around 26 percent for individuals of at least seventy years of age, 40% for those between fifty and sixty-nine years and 65 percent for those between thirty and forty-nine years old.

Psychosocial Factors:-

There exist numerous papers regarding the effect of psychological and social factors on chronic post-surgical pain.

A study conducted by Taenzer et al. (1986) points out that healthcare providers who wish to identify patient at risk who experiences chronic post-operative pain is advised to think of the typical emotions that the patient experiences and not what the patient feels prior to the operation. Tasmuth et al. (1996) also conducted a study where women who underwent breast cancer surgery found heightened levels of depression and anxiety prior to surgery compared to other healthy women. However, one year after the surgical procedure, the levels of anxiety among these women had returned to normal. However, in patients that experienced chronic post-surgical pain, depression was higher.

A study was conducted by Jess et al. (1998) on patients with laparoscopic cholecystectomy and discovered greater neuroticism levels after one year among patients who experienced chronic post-surgical pain.

Fear of surgery was connected to poor global recovery as well as the quality of life after six months. Nonetheless, the psychological factors which appear as risk factors in chronic post-surgical pain lack a similar association as acute pain. With regard to serious pain generally, the life quality is affected more through cognitive factors, mostly the catastrophizing of pain more than its intensity. There is a likelihood that psychosocial factors play an important role in chronic post-operational pain.

Preoperative Pain:-

A number of studies on hernia surgery suggest that pain prior to the operation is a key risk factor for serious post-operational pain (Wallace et al., 1996; Poobalan et al., 2001; Poleshuck et al., 2006). According to Page et al. (2009), who conducted a properly-designed study on this topic, established that approximately 25 percent did not experience any pain at rest prior to their hernia repair. 50 percent of the subjects experienced mild pain while the others experienced pain that may be considered mild to moderate.

Some of the patients who did not experience any pain before the operation felt pain afterwards while 5 percent noted that their daily lives were worse twelve months after the surgical operation. In a study on post-amputation pain, Nikolajsen et al. (1997) established an association between pain prior to the amputation and a heightened risk of

phantom and stump pain in just three months following the operation. Keller et al. (2000) established that 48 percent of individuals under narcotic analgesics prior to thoracotomy felt chronic post-surgical pain and among these, only 5 percent were not under narcotics.

Kroner et al. (1989) established a correlation between phantom breast pain and pain prior to the operation. Pain intensity prior to the total hip replacement appears not to have any correlation with chronic post-operational pain.

Serious Postoperative Pain:-

Most studies show that there is a correlation between chronic post-operational pain and acute post-operational pain. The first study that established a link between chronic post-operative pain and acute post-surgical pain was done by Kalso et al. (1992). Richardson et al. (1999) indicated that acute post-surgical pain was linked to chronic pain following a thoracotomy operation. In a paper meant to study the risk factors of chronic post-operative pain, Katz et al. (2005) concluded that early post-surgical pain was the main factor which predicted pain in the long term.

Surgical Factors:-

Regardless of the fact that the size of the surgical procedure cannot be easily correlated with chronic post-operative pain, the type of operation as well as its performance has an effect on the occurrence of chronic post-surgical pain. Peters et al. (2006) established general chronic pain as well as poor outcomes in operations that lasted at least three hours.

Prevention:-

Due to the difficulty encountered in treating post-surgical pain, there is the need to focus on prevention. As at now, there is little evidence of strategies that prove effective. This shows that there is a need for further research. Nonetheless, there are two strategies.

Effectively Managing Post-Operative Pain:-

There is evidence that there exists a strong correlation between chronic post-surgical pain as well as acute postoperative pain. However, proof of a causative link is yet to be established. A patient may receive a good perioperative analgesia that should be part of the program in perioperative comprehensive care due to several medical, humanitarian and ethical concerns. As shown in the above paragraphs, the selection of the analgesic and anesthetic regimen that will best offer a recovery program that is free from surgery is still in development.

Surgery as a Risk Factor:-

When it comes to chronic post-operative pain, one of the important risk factors is surgery. As of today, the only known method that can help in the reduction of the number of chronic post-surgical syndrome cases is the reduction of the frequency of surgical procedures done. Considering phantom pain, for instance, the best case to lower its incidence would be through the prevention of amputation procedures. Amputations of the lower limb are usually the outcome of vascular disease that is related to smoking and diabetes.

Nikolajsen et al. (1997) concluded that the pain incidence following an operation for breast augmentation lies at 13 percent, alternating from 21 percent to 50 percent based on the type of operation. The study also established a 22 percent incidence in surgical procedures meant to do breast reductions. There are many adverts on cosmetic surgery. However, these adverts fail to mention that chronic pain is a complication of the surgical procedure.

Conclusion:-

Chronic post-operative pain remains a common occurrence. In the past few decades, the research standard has markedly developed although much work still needs to get done, mostly in the areas of risk factors and mechanisms. Enhancing the control of acute post-surgical pain is among the strategies that can go a long way in the forestalling of chronic post-operative pain. Nonetheless, there are numerous organizational, technical as well as cultural barriers that need to be overcome so as to make the suggested improvements. There is a need for educating medical professions as well as the general public on the problem. If patients as well as doctors learn about the risks, some patients may be deterred from undergoing unnecessary and inappropriate procedures.

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