Free research paper on interpretation of statistical significance of a study

Interpretation of Statistical Significance of a Study

Postoperative pain is a common thing in the surgery world. Patients go through lots of pain after undergoing surgery; this is after the pain killing drugs are no longer effective in the human body. The pain has to be managed or at least controlled. Managing post operative pain will lead to the patients having short stints in hospital, low hospital costs, early mobilization, less suffering and patient satisfaction. Usually, the ways of managing postoperative pain ranges from patient to patient depending on the kind of surgery, patient's personal preference and other personal factors like age, gender, physical and psychological conditions, anxiety and fear. Since surgical pain can never be eradicated, the aim is usually to minimize the dosage so that the patient does not suffer side effects of the drugs but at the same time the drug works well.

Dilaudid is a patient controlled analgesia (PCA) post operative pain management method. It involves the use of a pump to administer opioids for severe to moderate post operative pain. In this case, the patient administers the drug to themselves. Therefore, there is quick access to pain medication, there is ready titration of the medicine and there are few chances of medication error. The pump is stopped once the patient is capable of taking oral analgesics. Generally, compared to other analgesics methods, PCA provides a more comprehensive pain control, higher opioids usage and higher patient satisfaction.

There are statistical methods and significance applied in the administration of Dilaudid PCA. The drug has to be administered at specific time periods and intervals as well as in prescribed amounts. This ranges from one patient to another. There are always ready titrated solutions that the patient takes in through the pump. The patients usually take a given rate of Dilaudid depending on their weight. For example, a 65kg adult will be given an initial dose of 2. 0 mg. Thereafter; the patient will be given 1 mg per hour fixed to 8 minute intervals. The amount administered should not exceed 6 mg within 4 hours. These drugs are administered over long periods of time. Some people unfortunately take them for decades depending on their sickness or history with surgery.

Statistical procedures involved include time intervals, quantity given and the trends of analyzing patient progress. The Dilaudid solution is also titrated There are also the ratios between the weight and the quantity of the drug that the patient takes. These procedures are meant to ensure that the patient is taking the correct drugs based on the doctor's prescription. The patient information and the medical administration are recorded every time the drug is administered. The hospital management and the nurses and doctors refer to this information when they want to make any decision about the patient.

The significance of the statistical information is brought about by the ability of the statistical information to dictate what step the medical team should take. For example, if a patient's body weight is high, he will be administered a larger amount of Dilaudid. The ratios between body weight, age and the

drug dictate the number of times the post operational drug will be administered to a patient. The conclusions about this information or what to do is reached at just by comparing the patient details and the drug administration instructions. The patient will be told how and in what quantities the drug is given. The conclusions are definitely appropriate because with the patient's information available, one can derive the quantities in which the patient should get the drug. The doctors and nurses can therefore be confident in making decisions based on the statistical information available to them. However, the fact that the number of times that a patient can be administered the drug varies from patient to patient and the kind of operation makes the statistical conclusions to be less accurate. This lowers the confidence in the manner in which the prescriptions are made.

The findings of this information are significant only if the drug is prescribed to a patient and the prescription has been fully reached at based on the statistical information available. A statistically significant data in this case is one which the patient's health and physical condition determine the prescription. The process used to reach the significance level is as follows. The patient's body weight is plotted against the different volumes of the drug prescription. The type of the operation, the patient's personal preference and age are exogenous factors in determining the quantity of the drug to be prescribed. Significance is determined as follows, the higher the patient's body mass, the higher the volume and frequency the drug will be administered.

Using a hypothesis, the drug can be said to be administered according to body mass and kind of operation of the patient. In such a case, the possible outcomes are, the patient will be administered high amounts of the drug at a high frequency or low drug amount at a less frequency. The outcomes will be interpreted based on body mass. The patients with a high body mass are those with a large statistical significance. When the real sample is compared to the null hypothesis, it is found to be true that patients with a large body mass have a high probability of being prescribed large volumes of the drug and at a high frequency.

References

D'Arcy, Y. (2011). Compact Clinical Guide to Acute Pain Management: An Evidence-Based Approach for Nurses. Upper Saddle River: Springer Publishing Company.

Sinatra, R. S., Jahr, J. S., & Watkins, J. M. (2010). The Essence of Analgesia and Analgesics (illustrated ed.). London: Cambridge University Press.