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PRESCRIBING PATTERN OF NARCOTIC DRUGS IN A TERTIARY CARE HOSPITAL - A PROSPECTIVE STUDY

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ABSTRACT

Background: Narcotic drugs are safe, economical and effective for management of severe pain in selected groups of patients. so prescribing of narcotics in hospitals should take very careful. In this study helps to check the patients prescribing pattern of narcotics, its dose, frequency, time, period of consumption. **Objectives**: Objectives of the study was to quantify physician prescribing pattern and to determine the narcotic use of each patient, its dose, frequency, time, period of consumption and also identify how many narcotics prescribed for each patient in a single prescription sheet. **Methods**: This prospective observational study was carried out in a tertiary care hospital in Bangalore during the period of March 2018 to May 2018. **Results**: For this study, we analysed 110 patients narcotic sheets. Out of 110 cases we analysed the gender distribution, mostly prescribed narcotics based on various departments and errors identified in the narcotic sheets. Based on gender distribution we analysed, males of 52% are more using narcotics than the females of 48%. Based on the evaluation of department among which narcotics mostly prescribed, MICU patients were using more amount of narcotics of having 50% and emergency department is using less amount of 0.90%. **Conclusion:** There should be a standard guidelines necessary for

narcotic prescribing in every hospitals which helps to reduce the errors in narcotic prescription and its overdose. This study helps to evaluate the safety, effectiveness of the prescription pattern of narcotic drugs.

KEYWORDS: Pain management, narcotics, prescribing pattern, narcotic prescription sheet.

INTRODUCTION

Narcotic drugs are safe, economical and effective for management of severe pain in selected groups of patients. There is need to facilitate and improve access to opioids for medical use while maintaining, strengthening and integrating programs to control misuse and diversion.[1]

Narcotics are addictive drugs that reduce the user's perception of pain and induce euphoria (a feeling of exaggerated and unrealistic well-being). Narcotics are central nervous system depressants that produce a stuporous state in the person who takes them. These drugs often induce a state of euphoria or feeling of extreme well-being, and they are powerfully addictive. The body quickly builds a tolerance to narcotics in as little as two to three days, so that greater doses are required to achieve the same effect. Because of the addictive qualities of these drugs, most countries in the twenty-first century have strict laws regarding the production and distribution of narcotics.

The main therapeutic use of narcotics is for pain relief, and hence they are often called narcotic analgesics. analgesics are drugs that relieve pain. There are two main types: non-narcotic analgesics for mild pain, and narcotic analgesics for severe pain. Narcotic drugs include all dosage forms of opioids derivatives such as Morphine, Pethidine, Fentanyl and Sufentanil which require a license from regulatory authority[8]. All controlled substances are listed as Schedule X drugs under the Drugs and Cosmetic Act, 1940.

All narcotics are chemically related and interact with opioid receptors on nerve cells in the body and brain.[1] Opioid pain relievers are generally safe when taken for a short time and as prescribed by a doctor, but because they produce euphoria in addition to pain relief, they can be misused (taken in a different way or in a larger quantity than prescribed, or taken without a doctor’s prescription).[5] Regular use—even as prescribed by a doctor—can lead

to dependence and, when misused, opioid pain relievers can lead to addiction, overdose incidents, and deaths.[2,7]

- High alert narcotics drugs and its doses in the hospital;

DRUGS	DOSES
Inj.Fentanyl	100mcg/2ml 500mcg/10ml
Fentanyl Patches	25mcg/hr 50mcg/hr
Inj.Morphine	10mg/1ml
T.Morphine	10mg
Inj.Pethidine	100mg/2ml

The process of evaluation of narcotic sheet

In triplicate prescribing, the physician keeps one copy of the prescription for five years and sends two copies with the patient to the pharmacist. The pharmacist keeps one copy and forwards the third to a specified state agency. Here the prescription is used to track the physician's prescribing practices and the patient's use of the controlled substances. Triplicate prescribing means there are three copies of narcotic prescribing sheet, one is white which always kept in pharmacy, other is yellow which kept in each patient folder, last sheet is pink which kept in each department where patient admitted. By filling this sheets only nurses can intend the narcotics to the patients.

MATERIALS AND METHOD

The study is a prospective observational study carried out in tertiary care hospital for a period of 3 months with sample size 110 patients. Patients using narcotic drugs as pain management in various ICU's, wards and emergency departments are included in the study. Departments like radiology, NICU, Outpatient department, Dialysis, narcotics are rarely used, were excluded.

RESULTS AND DISCUSSION

Prospective observational study was conducted in a tertiary care hospital, Benarghatta during a period of 3 months (March 2018- May 2018). A total of 110 patient narcotic sheet was checked in between the months of march to may 2018.By checking the triplicate narcotic sheets (white, yellow, pink), we evaluate how many narcotics are prescribed for a patient in a single prescription sheet[3] and also the narcotic drug, dose, time of drug prescribed, route, frequency, period of consumption. Prescribing pattern of physician,

signature of physician also have to check. The narcotic drugs mostly prescribed in narcotic sheets are Inj.fentanyl, fentanyl patches, Inj.pethidine, Inj. morphine. The indenting process of physicians also checked in order to confirm whether the indenting is done based on the narcotic prescribing protocol. The parameters evaluated in the study include patient's age group, gender, departments where narcotics mostly prescribed and error occurs in the narcotic prescribing sheet.

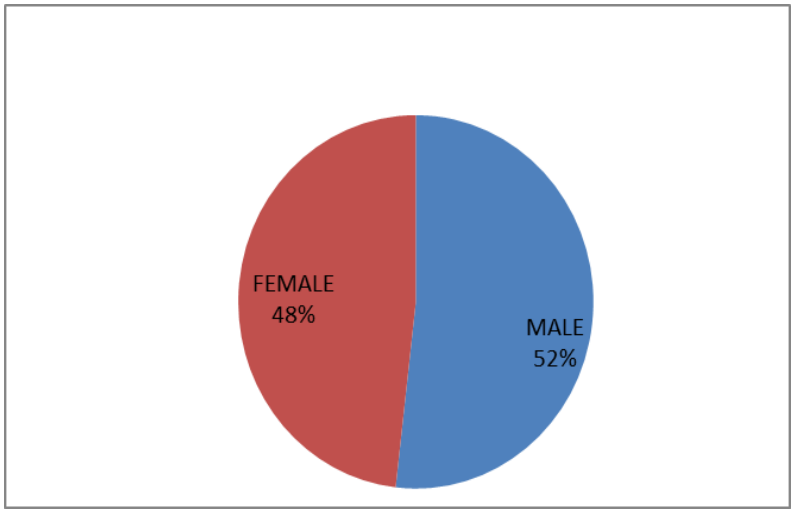

Figure 1: The Graph Shows The Percentage Of Gender Distribution.

Based on the gender distribution in the graph, males(52%) are more using narcotics than the females(48%).[4]

Table 2: The Table Shows Which All Are The Departments Where Narcotics Mostly Prescribed.

Department	No.of cases	Percentages
Oncology	14	12.72
Ortho	7	6.36
Cardiology	11	10
Gyneacology	14	12.72
Csicu	3	2.72
Emergency	1	0.90
General ward	8	7.27
Micu	50	45.4
Nsicu	2	1.81

In table:2 it shows various departments where narcotics are used for patients here in the table MICU 50 patients are using more narcotics than other departments.the percentage of MICU cases was 45.4%.Very less narcotics using in emergency department (1)0.90%.

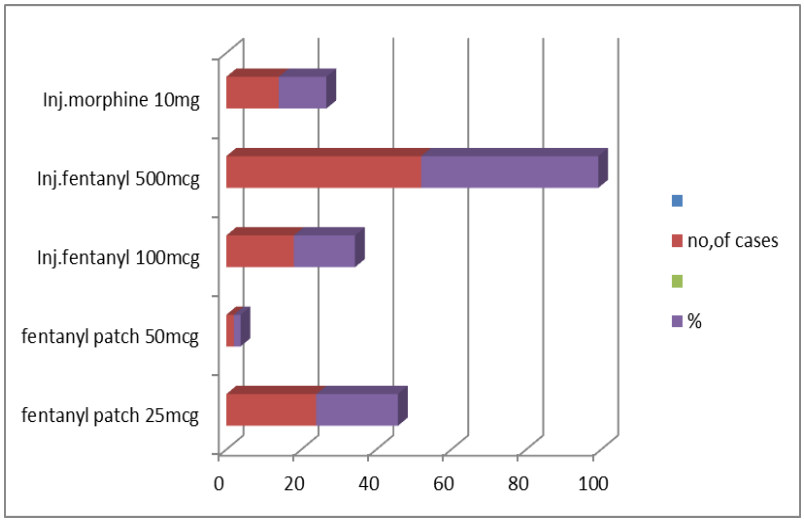

Figure 3: The Graph Shows The Percentage of Mostly Prescribed Narcotics In Various Department.

In table: 3 and the graph represents which narcotic was mostly prescribed in the hospital[4] and Inj. fentanyl 100mcg, 18(16.3%) patients prescribed out of 110 sample size, Inj. fentanyl 500mcg prescribed for 52 patients(47.2),which was highly prescribed narcotic drug in this study.

Fentanyl patch 25mcg prescribed for 24(21.8) patients, fentanyl patch 50mcg prescribed for only 2(1.81) patients, Inj.morphine 10mg for 14(12.7) patients. More prescribed drug was Inj. fentanyl 500mcg.

Table 4: The table shows the prescribing error in narcotic sheet (form 3e part) is completely filled or not (no. Of cases that the columns not filled).

3e Part	No.of Cases 3e Part Columns Not Filled	Percentage Of Cases Not Filled Columns
IP NO.	2	1.81
Date	1	0.9
Address Of Patient	1	0.9
Whether patient is reg with any other practitioner	41	37.2
Illness of patient	9	8.1
Signature of patient	1	0.9
Frequency	5	4.54
Route	2	1.81
Period of consumption	2	1.81
Name of doctor	Name not clear-10 Full name not written-9	9.09 8.18

In table: 4 represents the narcotic sheet form 3E part where shows how many columns are filled or not after indentiting the drugs. here are different columns which are IP No., date, name of the patient, whether the patient is registered with any other practitioner, illness of the patient, signature of the patient, drug name, dose, frequency, route, period of consumption and name of the doctor. And here physicians produce more error in patient registered with any other practitioner column and 41 patients are with empty column. then illness of the patient was not written in many narcotic sheets(9)8.1%.

Figure: 5 The table shows the prescribing error in narcotic sheet (indent cum administration part)were coloumns not filled completely.

Indent cum administration	No. Of cases that indent cum administration part not filled	Percentage of no.of cases not filled
Administered by	1	0.9
Quantity administered	5	4.54
Date	7	6.36
Time	7	6.36
Quantity wasted	3	2.72
Witnessed by	10	9.09
Empty ampule returned by nurse	10	9.09
Empty ampule received by pharmacist	8	7.27

In table: 5 shows the indent cum administration part of the narcotic sheet in which the narcotic drugs after intenting where noted in this part. The administering dose, duration, time, date, quantity wasted, witnessed by empty ampule received by nurse and empty ampule received by pharmacist is filled or not should have to be check, here witnessed by and empty ampule returned by nurse (9.09%) was not filled in 10 patients out of 110 prescriptions.

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CONCLUSION

Narcotics are high-alert medications that bear a heightened risk of causing significant patient harm when used in error.[6] They have been associated with accidental overdose deaths. For narcotic use in hospital, there is a standard guidelines used for prescribing.[3]

So for using narcotics separate narcotic sheet was needed (triplicate sheets). By proper maintaining of narcotic sheets, it was helpful to avoid error causing while intenting the narcotics for pain management. By checking the prescribing pattern of narcotics, we can identifying the prescribers are efficient for prescribing the narcotics because physicians are responsible for patients use of narcotics. From this study, we concluded that in this teritiary care hospital they are following standard guidelines for narcotic prescribing, so they have less prescribing errors in the narcotic sheets, but proper teaching is needed to the consent physicians and nurses,this can reduce the prescribing errors. When drugs using carefully and under a health care provider's direct care, these drugs can be effective at reducing pain.

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