

Pattern of morphine prescription by doctors in a Nigeria tertiary hospital

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Abstract

Background: Morphine was reintroduced into Nigeria after a long period of absence due to technical problems relating to stock accounting. With this reintroduction, prescriber education was commenced in many centers including the University of Ibadan.

Aims and Objective: The aim of this study is to review the morphine prescription habits of the medical doctors practicing at the University College Hospital, Ibadan, and to assess the level of conformity with international guidelines.

Materials and Methods: All the prescriptions on oral morphine in the hospital's pharmacy records within a 6 months period were reviewed.

Results: The results showed that more than half (51.7%) of all morphine prescriptions were from the Radiation Oncology Department, while the newly created Day Care Hospice Unit accounted for 31.8% of the prescriptions. No prescriptions were seen from the Labor ward. Only 1.1% of all the prescriptions conformed to international guideline as contained in the "Blue Book."

Conclusion: The results showed that there is a need for more education and advocacy programmes to increase awareness among doctors about morphine prescriptions.

Key words: Audit, doctors, morphine, Nigeria, prescriptions

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Introduction

Oral morphine is derived from a naturally occurring opium plant, *Papaver somniferum*. It was the first active alkaloid to be extracted from a plant at the beginning of the nineteenth century in Germany.^[1] The drug was named after Morpheus, the mythological god of dreams. It was offered for public use in 1817, as an analgesic and as a treatment for opium and alcohol addiction.^[2]

It has since been recognized as a potent analgesic and in 1986, the World Health Organization (WHO) recommended its use as the drug of choice for the treatment of severe chronic pains, including cancer pains.^[3]

However, a large number of doctors are hesitant to prescribe morphine because of the unfounded fear of addiction. This fear

was based on initial reports of extensive addiction to the drug following its use during the American Civil War.^[4] The fact that strong illicit drugs of addiction like heroine are produced from the same plant as morphine, did not also help matter as the association has been etched in the mind of many physicians.

Many studies have however showed that addiction is not a significant problem with morphine use, especially when strict guidelines are followed in its handling and administration.^[5]

Objectives

The main objective of this audit is to assess the morphine prescribing pattern of doctors in an eight hundred and fifty

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(850) bedded tertiary institution pioneering the use of oral morphine in Nigeria and to assess whether standards are followed.

The standard as stated in the “Blue Book” by Hospice Africa Uganda is that oral morphine be given 4-hourly, with initial starting dose of 2.5–5 mg, double dose at bed time, and systematic increment according to individual patient need. The prescription should also be accompanied with laxative.^[6]

Materials and Methods

The study is a review of doctors’ prescriptions on oral morphine to patients in pain. It is a descriptive analysis of oral morphine prescriptions made within a 6 months period, between May, 7th, and November, 10th, 2008.

The study included all prescriptions on oral morphine in the hospital’s pharmacy records within the stated period. Data were collected on a spread sheet. The collected data are date of prescription, age of patient, ward or clinic from where prescription emanated and the dose, frequency, and total duration of use of the oral morphine.

Results

Seven hundred and thirty six (736) prescription sheets made by medical doctors on oral morphine prescribed to patients, within the study period (May–Nov 2008) were retrieved from the pharmacy records.

Doctors in the Radiation Oncology Department of the hospital wrote 373 (51.7%) of the prescriptions, while 234 (31.8%) came from the newly established Day-care Hospice unit of the Hospital. These two units accounted for more than 80% of all the morphine prescribed in the hospital within the period.

The Surgical Wards and Clinics contributed 73 (9.9%) of the morphine prescriptions. Otorhinolaryngology Department was responsible for 37 (5%) prescriptions made in the study period. Others (which included the Medical Wards, Gynecology Wards, and the General Outpatient Department) issued a total of 19 (2.6%) prescriptions on oral morphine. No morphine prescription was seen from the Labor Ward and only 8 (1.1%) prescriptions contain the nocte double dose.

The age range of patients to whom oral morphine was prescribed varied between 4 and 90 years (mean of 42.73 years, standard deviation is 18.22). The dose range was 2.5–50 mg per dose. Duration of prescription ranged from 1 to 56 days with a mean of 12.53 days and standard deviation of 6.96 [Table 1].

Frequency of daily oral morphine prescribed ranged from “PRN, 12 hourly, 8 hourly, 6 hourly to 4 hourly [Table 2].

Table 1: Duration of morphine prescriptions

Duration of morphine use	No. of patients	Percent
1–7 days	385	52.3
8–14 days	273	37.1
15–21 days	16	2.2
22–28 days	34	4.6
>28 days	5	0.7
Unknown	23	3.1
Total	736	100

Table 2: Frequency of dose of morphine prescribed

Frequency of use	No of prescriptions	Percent
4 hourly	568	77.2
6 hourly	106	14.4
8 hourly	59	8.0
12 hourly	2	0.2
PRN	1	0.1
Total	736	100

PRN = Pro re nata

The route of prescription was oral. No laxative was included in any of the prescriptions.

Some abnormalities were noted in some of the prescriptions; including prescriptions in “mls” rather than “mg,” some had no clearly stated duration or dose. One “PRN” prescription was also seen.

Discussion

Our findings in this audit reflect the findings in some previous studies on this subject matter. Indeed many published studies have demonstrated various degrees of noncompliance with the etiquette of morphine prescriptions by some prescribers.

Neo *et al.*, in 2001, audited morphine prescribing pattern in a hospice in Singapore. In a review of 358 records with about 35% of morphine prescriptions, several deficiencies in morphine prescriptions were identified. These include omission of breakthrough morphine dosing, use of morphine as PRN (when necessary, instead of round the clock), use only for chronic pain, absence of review after prescribing treatment, and lack of double dosing at night. Prophylactic laxative and antiemetics were also omitted in many of the prescriptions.^[7] These findings were quite similar to the findings in this current audit. Indeed many of the deficiencies noted were similar. These include lack of the nocte double-dose and PRN prescriptions.

The status of laxative prescription was difficult to assess in our own study due to the hospital policy that morphine prescription should not be combined with other drugs on a single prescription sheet. In addition, while morphine prescription were carefully made out and recorded, prescriptions for other drugs including laxatives were not

so meticulously documented. However, in our radiation oncology unit, laxatives are routinely prescribed along with morphine.

Pain in cancer patients and other chronic health conditions is generally undertreated,^[8] due to factors such as insufficient education of healthcare professionals,^[9] fear of adverse effects, exaggerated concerns about the risks of abuse and diversion, and complex and restrictive prescription regulations.^[10]

Morphine being an opioid is often underprescribed or malprescribed as a result of the various combinations of the above stated observations. The consequences of inappropriate use of morphine by physicians are considerable and often deleterious. First, and perhaps most important, needless pain is suffered by patients in both acute and chronic settings. Another important and perhaps equally important consequence is a gradual deterioration in the physician–patient relationship due to non relieve of pain. This may lead to reduced confidence in the health care provider and consequence poor compliance with treatment. This is why it is important to observe the rules of morphine prescription to ensure adequate control of pain. Doses prescribed as PRN (sometimes derisively referred to as pain relieve never) is usually inadequate to control chronic pain as this usually results in break through pain. Morphine should be prescribed to be taken at regular intervals (e.g., 4 hourly) and the dose titrated against the patient's response and possible side effects. In addition, double-dosing is recommended at bed-time to allow patient to have quiet sleep throughout the night. Administering only the regular dose at bed-time may lead to sleep-disturbing break-through pain during the night.

Although evidence has been adduced for the increasing illicit use of morphine in some places,^[11] some old health care givers regard the use of high dose morphine as euthanasia.^[12] However, it has been shown that careful use of this powerful analgesic is beneficial in the management of acute and chronic pain^[11,13] It is therefore important that the appropriate use of morphine be emphasized as often as possible. In addition, nonuse of opioid by physicians may also lead to overprescription of less effective analgesics and sedatives.

Though morphine is available in the hospital during the audited period, it is interesting to note that most of the prescriptions (over 80%) were written by the Oncology and the Palliative care teams. There was no prescription from the labor ward and only a small number of prescriptions from the gynecology and medical clinics and wards. The absence of the use of morphine in labor in the hospital may be related to several studies that have shown that morphine is not particularly very potent as an analgesic during labor unless administered intrathecally.^[14,15] However, it is difficult to explain why morphine prescriptions in the medical wards

were very low. This may be due to lack of awareness among the doctors in those areas of the hospital or reluctance to use morphine for some of the reasons stated earlier.

Conclusions and Recommendations

This audit has demonstrated that specialists in oncology and palliative care practice in this hospital have widely embraced morphine as a potent analgesia in the management of pain in their patients. This is in contrast to doctors in other specialties that appear to be using morphine more sparingly or not at all. However, it appears that even among those prescribing, adherence to the rules of morphine prescription is poor. There is therefore a need to provide continuous education and re-education of all health care providers in the use of morphine as a potent analgesic in the care of their patients.

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