Oral Morphine Prescription Pattern accuracy: Are we doing it right?

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Abstract

Objectives: Oral morphine is a potent, cheap, easy to use analgesia for moderate to severe pain. The aim of this study is to review the pattern of oral morphine prescription amongst different cadres of Doctors in OOUTH, a Nigerian tertiary hospital. The objectives were to determine how accurately oral morphine prescriptions were written and to find out if the wrong prescriptions were also dispensed.

Methods: All prescriptions on oral morphine were retrieved from the hospital's pharmacy records for the period between 1st August 2016 (when oral morphine was introduced to the facility) and 28th February 2018. The data captured included details of the prescriber, the strength and dosage of oral morphine, how accurate each prescription was, and strength of oral morphine often prescribed, and the data was analyzed manually.

Results: One hundred and forty-two (142) prescriptions were retrieved. The prescribers included; Resident Doctors (Junior and Senior Residents), Consultants and House/Officers/Medical Officers in 72 (50%), 58 (40.2%) and 14 (9.7%) respectively. The specialties of the doctors that prescribed oral morphine included: General Surgery (62%), Palliative Care (21.8%), Paediatric Surgery (0.7%), while Gynaecology, Internal Medicine, Haematology, Orthopedics and Otolaryngology had 1.4% each with two (2) prescriptions each (1.4%), The remaining 4.9% of the prescriptions were from medical officers at the Accident & Emergency Unit. The strength of oral morphine prescribed was distributed as follows: 10mg/5mls (42.2%), 5mg/5ml (40.8%), 2.5mg/5mls (10.6%), 20mg/5mls (3.5%) and 7.5mg/5mls (2.8%). There were 25 (17.6%) wrong prescriptions and these were written mostly by medical officers and house officers. The errors in prescriptions were mainly in terms of writing volume with no strength indicated and dose prescribed with ambiguous timing intervals.

Conclusion: Oral morphine is widely prescribed in this tertiary facility in a developing country and close to one-fifth of the prescriptions was wrong. Therefore, there is a need for training and re-training of prescribers and dispensers for optimal patient safety.

Keywords: Oral Morphine, drug prescription, doctors, opioids, palliative care

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Précision du modèle de prescription de morphine orale: le faisons-nous correctement?

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Resume

Objectifs: La morphine orale est une analgésie puissante, peu coûteuse et facile à utiliser pour les douleurs modérées à sévères. Le but de cette étude est de passer en revue le modèle de prescription de morphine par voie orale chez différents cadres de médecins à OOUTH, un hôpital tertiaire nigérian. Les objectifs étaient de déterminer avec quelle précision les ordonnances orales de morphine étaient rédigées et de déterminer si les mauvaises ordonnances étaient également délivrées.

Méthodes: Toutes les prescriptions de morphine par voie orale ont été extraites des dossiers de pharmacie de l'hôpital pour la période allant du 1er août 2016 (date à laquelle la morphine par voie orale a été introduite dans l'établissement) au 28 février 2018. Les données saisies comprenaient des détails sur le prescripteur, la concentration et le dosage du médicament. morphine par voie orale, la précision de chaque ordonnance et la force de la morphine par voie orale souvent prescrite, et les données ont été analysées manuellement.

Résultats: Cent quarante-deux (142) ordonnances ont été récupérées. Les prescripteurs inclus; Les médecins résidents (résidents subalternes et seniors), les consultants et les responsables de la maison / responsables / médecins agréés représentent respectivement 72 (50%), 58 (40,2%) et 14 (9,7%). Les spécialités des médecins qui prescrivaient de la morphine par voie orale étaient les suivantes: chirurgie générale (62%), soins palliatifs (21,8%), chirurgie pédiatrique (0,7%), tandis que la gynécologie, la médecine interne, l'hématologie, l'orthopédie et l'oto-rhino-laryngologie comptaient pour 1,4% chacune 2) les ordonnances chacune (1,4%). Les 4,9% restants des ordonnances provenaient de médecins du service des urgences. La force de la morphine orale prescrite était répartie comme suit: 10 mg / 5 ml (42,2%), 5 mg / 5 ml (40,8%), 2,5 mg / 5 ml (10,6%), 20 mg / 5 ml (3,5%) et 7,5 mg / 5 ml (2,8 mg). %). Il y a eu 25 (17,6%) mauvaises ordonnances, qui ont été rédigées principalement par des médecins et des agents internes. Les erreurs dans les prescriptions concernaient principalement le volume d'écriture sans indication de force et la posologie prescrite avec des intervalles de temps ambigus.

Conclusion: la morphine orale est largement prescrite dans cet établissement tertiaire d'un pays en développement et près du cinquième des prescriptions était erroné. Par conséquent, il est nécessaire de former et de recycler les prescripteurs et les dispensateurs pour une sécurité optimale des patients.

Mots-clés: morphine orale, prescription de médicaments, médecins, opioïdes, soins palliatifs

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INTRODUCTION

Oral morphine is generally the first line strong opioid for pain relief in palliative care (1). The World Health Organization (WHO) recommended its use as the drug of choice for treatment of moderate to severe pain, including cancer pain (2).

The inception of palliative care in Africa spanning over two decades has granted access to strong opioids for pain relief which was initially impossible (3). A structured palliative care system was initiated in Nigeria in 2003 at the University College Hospital, Ibadan (4). Oral morphine became available for use in Nigeria in the year 2006 despite its liberal use in other countries (4). Oral morphine is usually purchased in powder form from the United Kingdom to Nigeria by the central medical stores. Notice of availability is then circulated to institutions that need it to procure and the pharmacist in designated hospitals compound it into the oral liquid form.(4)

The use of oral morphine for pain relief was first introduced to Olabisi Onabanjo University Teaching Hospital, Sagamu, Nigeria in 2016 following the formal inauguration of the palliative care unit. Our facility is a 290-bed tertiary hospital that provides care for over 3 million citizens of the Ogun state, while patients are referred from other secondary and primary healthcare providers. Apart from the trauma cases that constitute a significant number of our patients, the hospital also provides care for various types of cancer patients from different medical specialties. The available strength of oral morphine in the hospital are 5mg in 5mls, and 10mg in 5mls oral preparations. Only medical doctors are certified to prescribe opioid analgesics including oral morphine for patients as in many other health facilities in Nigeria. The aim of this study is to review the pattern of oral morphine prescription amongst different cadres of Doctors at Olabisi Onabanjo University Teaching Hospital, a major cancer referral center in Ogun state with a young palliative care service. Meanwhile the objectives were to determine how accurately the prescriptions were written in terms of dosage, frequency and strength. Another objective was to discover if wrong prescriptions were also dispensed

MATERIALS AND METHODS

This study was carried out at Olabisi Onabanjo University Hospital, a tertiary institution with a budding palliative care unit that was 24 months old as at the time of the study. This was a retrospective survey of prescription pattern. All prescriptions on oral morphine from the inception of its use in the hospital on 1st August 2016 to 28th February 2018 were retrieved from the hospital's pharmacy records. The data captured from the prescription sheets included the details of the prescriber including the cadre and specialty. The dose, strength and frequency of oral morphine prescribed were also retrieved. It is expected that standard National Opioid Prescription Guideline of oral morphine should be followed.(2) This is stipulated as a prescription is written on a separate stand-alone prescription sheet with patient's full biodata, the dose in milligrams per milliliters, frequency at which it should be taken [4-hourly] and double dose at night. The prescription should not be open ended, that is it must have a specified period of use. It must be duly signed with name of prescriber and cadre clearly written beneath. Any prescription outside this format is regarded as incorrect. The data was analyzed manually and the results were presented in prose, tables and figures. Ethical approval was obtained from the hospital's research ethics committee [OOUTH-HREC]

RESULTS

One hundred and forty-two (142) prescriptions were retrieved. The professional cadre of the prescribers were as follows: Residents doctors (50.0%), Consultants (40.0%) and Medical Officers/House-Officers (10%)

The distribution of oral morphine prescription is as shown in Table I below. There were 116 (82%) correct prescriptions as compared to 26 (18%) incorrect prescription of oral morphine. The errors in prescriptions were mainly in terms of specifying the prescribed volume of oral morphine (e.g 5mls 4hourly) with no strength of the oral morphine (e.g 5mg or 10mg) indicated. Some prescriptions stated non-standard timing intervals (like "administer twice daily or thrice daily or PRN i.e. as required"). It was also observed that all the wrong prescriptions that were not written according to the National Opioid Prescription Guideline were dispensed. However no complications were reported though adequate follow-up would have been appropriate if study were prospective.

DISCUSSION

Pain is estimated to be the most prevalent symptom preceding all deaths occurring in a palliative care setting (5). Strong opioids are safe and provide effective treatment for moderate to

severe pain in cancer patients. Oral morphine is a choice drug in that wise (2,5).

Oral morphine use is also an important indicator of cancer pain progression. It was observed that doctors in various stages of training (residents, medical officers & house officers) were the major prescribers of oral morphine in the hospital. The relatively high incidence of incorrectly written prescriptions were mainly by the junior cadre of doctors who are not in active training (medical officers and house officers). It should be noted that some other countries like Uganda and Kenya permit trained nurses to prescribe and also administer oral morphine (6,7) In developed countries, more than 50% of opioid prescriptions are written by the primary care providers and certified nurse practitioners [CNPs].opioid prescription is complex and delicate, thus professional health organizations and regulatory authorities have demonstrated interest in formulating prescription standards and safety measures to protect patients and prevent adverse outcomes.(8)

It is apparent from this study that our centre alongside with some other centers still do not comply with international guidelines with regards to oral morphine prescription.(5) The ideal thing is to give all likely prescribers formal training on appropriate oral morphine prescription; with details of dose /strength/ frequency of oral morphine to start with, based on patient's clinical condition.(2) This is particularly pertinent in our hospital because the use of oral morphine is new.

The 'Blue Book" written by Hospice Uganda Africa (6) stated as standard that oral morphine should be given 4-hourly, with initial starting dose of 2.5mg-5mg, while patient takes double dose at bed-time, and systematic increment according to individual patient's need. In addition, prescription must be accompanied with a laxative prescription. In this study, the frequency of wrong prescription was 18%, and the common errors were such as doses prescribed PRN [i.e use when needed], or doses to be given twice daily or thrice daily. Another wrong prescription noticed is omission of double dose at night or a dose to be given once [e.g; 20mg stat].(6) The consequences of wrong prescription includes; inadequate pain relief, needless pain suffered by the patient, lack of trust in managing physician and a high risk of subsequent patient's non-compliance to medical treatment due to lack of confidence in its effectiveness. (5, 9)

Adequacy of pain relief was not within the scope of this study since it was retrospective. As implied by other researchers, oral morphine is cost effective and easy to use (2,10,11). A training on appropriate prescription is needed by prescribers to eliminate consequences of incorrectly written prescriptions (11,12,13). Barathi et al observed the significant impact of education on improved oral morphine prescription practices amongst doctors and nurses in their study, including an overall patient satisfaction of pain relief (11).

CONCLUSION

There is a need for training and re-training of prescribers (all cadre of doctors) , including pharmacists who dispense oral morphine prescriptions, and nurses who administer the drugs to the patients on accurate oral morphine prescription and safe use.

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Table 1: Distribution of oral morphine prescription based on specialty

Specialty [units]	Frequency(n)	Percentage
General Surgery	88	62
Palliative Care	31	21.8
Paediatric Surgery	1	0.7
Gynecology	2	1.4
Internal Medicine	2	1.4
Haematology	2	1.4
Ortholaryngology	2	1.4
Accident & Emergency	12	8.5
TOTAL	142	100

The strength of oral morphine prescribed by different categories of prescriber is shown in Table II.

Table 2: Oral morphine strength prescribed

Strength of oral morphine prescribed (mg/5mls)	Frequency (n)	Percentage (%)
20	5	3.5
10	60	42.2
7.5	4	2.8
5	58	40.8
2.5	15	10.6
Total	142	100