

Effects of Guidelines on Opioid Analgesic's Prescription among Practicing Doctors in Rawalakot City: An Important Step to Prevent Opioid Misuse & Overuse

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ABSTRACT

Objective: To quantify the effects of dissemination & implementation of updated guidelines to achieve reduction & promotion of judicious prescription of opioid analgesics.

Study Design: Experimental descriptive study

Place and Duration of Study: This study was conducted at Sheikh Khalifa Bin Zayad Alnayan Hospital (CMH) Rawalakot from January to October 2019.

Materials and Methods: Summary of updated guidelines, agreed by a panel of experts, for opioid analgesic's prescription was circulated along with personal communications to 94 practicing doctors; 42 General physicians, 5 dental surgeons, 42 specialists & 5 postgraduate trainees. They were requested to read and implement the guidelines. After few weeks to months; on second visit, feedback of effects of these guidelines was collected through a well-designed Performa.

Results: Out of 94 doctors, 71 (75.5%) were male and 23 (24.5%) were female. Majority of doctors (94.68 %) doctors stated that their overall rate of opioid analgesic's prescription has decreased; on average by 51% with maximum 95% and minimum 10%. Knowledge about safe and effective opioid prescription has increased in 97.87%. Assessment of risk factors was started by 93.61 % and patient's counseling by 88.29 % of doctors.

Conclusion: Educating the practicing doctors about Updated Guidelines on opioid analgesic's prescription has significantly reduced the opioid prescription rate along with improvement in its judicious prescription. It is an important step to prevent opioid and overuse.

Key Words: Guidelines, opioid analgesics, judicious prescription, non-opioid analgesics.

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INTRODUCTION

Adequate pain relief is important otherwise it can lead to irritability, anger, anorexia, disturbed sleep, psychological disturbances & depression.¹ Opioids are potent 2nd line analgesics for severe pain, however these are not safe and can have serious side effects in addition to risk of addiction. Non-opioid measures (acetaminophen, non-steroid anti-inflammatory drugs & non-drug therapies) are first line treatment for all types of pain.²

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Non-pharmacological therapies that can help to reduce pain are massage, acupuncture, physiotherapy, hot-cold treatments, cognitive behavior therapy, transcutaneous electrical nerve stimulation (TENS) & self-care strategies. These measures can reduce dose & reliance on analgesics.³ Opioid analgesic's prescription accounted for about 6% of all prescriptions and about half were by primary care physicians. Specialty wise trend noted was 48.6% by pain medicine, 36.5% surgery & 33.5% physical medicine/rehabilitation.⁴ Common side effects of opioid analgesics are sedation, dizziness, nausea, vomiting and constipation. Less common side effects are physical dependence, tolerance, respiratory depression, delayed gastric emptying, hyperalgesia, immunosuppression, muscle rigidity, myoclonus, addiction and endocrine disorders. Most of these side effects are difficult to manage.^{5,6,7} Sudden stoppage of opioid analgesics can lead to fatal withdrawal symptoms; due to sympathetic over-activation leading to sweating, diarrhea, rhinorrhea, muscle aches, insomnia, yawning and gooseflesh.⁸ There is a potential risk of opioid abuse from short term opioid used for acute postoperative pain because 3-10%

of these patients will continue to take opioids one year after surgery.^{9,10}

The world is facing opioid epidemic due to increased trend of opioid prescriptions in response to the policy of eliminating all pain from 1991 onwards. Moreover misconception that opioids are highly effective and safe analgesics, lack of knowledge about guidelines and inaccurate belief of under treatment of pain also contributed. Now main aim is to reduce pain to minimum bearable level and zero pain is considered as unrealistic expectation.¹¹ Centre for Disease Control (CDC) guidelines (2016) recommended to add opioid analgesic in small effective dose; along with other therapeutic options for pain control, after considering benefits, side effects, misuse and risk of addiction. Counseling before prescription and close monitoring are essential.¹²

Hospital based opioid monitoring program and implementation of expert guidelines have reduced the rate and dose of opioid prescription. However the results are not up to the mark and needs multi-sectorial involvement of all stakeholders of health care system.¹³ Assessment should be done to detect high risk patients who are more prone to side effects and misuse of opioids. These patients include those having substance abuse, psychiatric illness, young males & extreme of age, pulmonary disease, obesity, pregnancy and are on benzodiazepines. It is better to avoid opioids in these patients but rarely can be prescribed with close monitoring.^{14,15} Judicious opioid prescription also has a risk of abuse, because 39% of heroin addicts admitted that they were initially prescribed opioid analgesics for acute pain before using heroin. This fact indicated the need of reducing judicious opioid prescription.¹⁶ Options to combat emerging opioid epidemic are educational & legislative activities of law enforcement, government regulatory agencies, pharmaceutical companies and healthcare providers.^{17,18} According to a survey report by the United Nations office on drug and crime in 2013 found that during 2012, more than 6.7 million Pakistanis have used opioids.¹⁹ Preliminary evidence indicated that guidelines can reduce the rate and dose of opioid analgesics prescription, but its effectiveness depends on the extent of understanding and implementation by the prescribers.²⁰

Two main aims of this study were reduction in rate and promotion of judicious prescription of opioid analgesics. There was a knowledge gap in national and international literature about proper guidelines and effective interventional strategies to curb opioid epidemic. There was no previous study about implementation of guidelines for reduction and promotion of judicious opioid prescription in Pakistan. Moreover there was no consensus about opioid's guidelines.

MATERIALS AND METHODS

Research study was conducted from January to October 2019, in Sheikh Khalifa Bin Zayad AlNayan Hospital (CMH), affiliated with Poonch Medical College Rawalakot Azad Kashmir Pakistan. Approval from hospital medical ethical committee was taken. According to inclusion criteria among total 94 practicing doctors, 42 were General physicians, 5 dental surgeons, 42 specialists & 5 postgraduate trainees. All practicing doctors of the hospital and Rawalakot city were included. The non-practicing doctors such as radiologists, Pathologists, administrators and basic sciences doctors were excluded from the study. House job doctors were also excluded from the study. In this study we used educational method and disseminated awareness about updated opioid prescription guidelines among practicing doctors; specialists, post-graduate trainees, dental surgeons & general physicians for information & implementation. Guidelines for prescription of opioid analgesics were finalized after consulting with expert representatives of every group of practicing doctors. Summary of agreed guidelines along with briefing about its salient features was given to every practicing doctor, on first visit by one of the authors. They were requested to read and implement these guidelines. After few weeks to few months, 2nd visit by one of authors; was made to every practicing doctor to collect information on a perform about effects of guidelines. The average time between initial and follow-up visit was 8 weeks. The average duration of initial and follow-up visit was 12 minutes. The collected data was analyzed by using SPSS-21.

RESULTS

Table No.1 Effects of guidelines on opioid analgesic's prescription

| S No | | No. of doctors | % |
|------|---|----------------|-------|
| 1 | Decrease in opioid prescription rate | 91 | 96.80 |
| 2 | Increase in knowledge | 92 | 97.87 |
| 3 | Started counseling about other pain treatment options, side effects & benefits of opioids | 83 | 88.29 |
| 4 | Started assessment of high risk factors | 88 | 93.61 |
| 5 | Started monitoring | 84 | 89.36 |
| 6 | Started early shifting to non-opioid treatment | 81 | 86.17 |
| 7 | Avoid prescription of opioid analgesics with benzodiazepines | 64 | 68.08 |

Out of 94 doctors, 71 (75.5%) were male and 23 (24.5%) were female. Among 94 doctors, 96.80% stated that they prescribe opioids for acute and chronic pain. Overall reduction of opioid prescription was noted by 94.68% doctors. The average rate of reduction was 51%, ranging from 10-95%. Knowledge about safe and effective opioid prescription has increased in 97.87%. Assessment of risk factors was started by 93.61% and patient's counseling by 88.29% of doctors (Table-1).

DISCUSSION

In our study majority of the doctors (94.68%) admitted that their overall opioid prescription rate has reduced. The average reduction rate of opioid prescription was 51% with a range of 10-95%. It is statistically significant, having P-value less than 0.05. Results of this study also indicated that all indicators for judicious prescription of opioid analgesics particularly increase in knowledge, counseling, risk factors assessment and monitoring has improved significantly (68.08-97.87%). These results are almost similar to other studies. Wetzel M et al (2018) in 2 studies have found that patient based guidelines dissemination to clinicians reported up to 53% reduction in rate of opioid prescription.²¹ Maureen HV, et al in 2018 observed 53% reduction in opioid prescription after disseminating operation specific guidelines to surgeons.²² Implementation of opioid guidelines at largest worker's compensation insurer in Utah, after 18 months, the number of claims with opioid prescription were reduced from 3061 to 1665, indicating 50.2% reduction ($P < 0.001$).²³ In a study by Bohnert ASB et al in 2018, the overall prescribing rate of opioid analgesics in January 2012 was 6577 per 100000 persons which after release of 2016 CDC-guidelines was reduced to 56.74 (CI, -65.96 to 47.53) per month afterward.²⁴

In our study the higher reduction rate (average 51% with a range of 10-95%) of opioid prescription was due to briefing about guidelines to all practicing doctors on 1st visit by one of authors which was missing in most of other studies leading to low reduction rate. In a study by Gaiennie CC and others in 2018, Guidelines implementation in internal medicine showed 10% decrease in opioid prescription. Moreover prescriber's knowledge and adherence to guidelines was also increased.²⁵ In Staten Island (2016), due to public health detailing, the opioid prescribing rate was decreased from 889 prescriptions per 10 000 patients in the pre-campaign period to 785 prescriptions per 10 000 patients in post-campaign period, an 11.5% decrease having a P-value less than 0.05.²⁶ In Utah (USA), six practicing guidelines were developed and presented to 581 health care workers for implementation. The results showed that 60-80% clinicians stopped long acting opioid prescription for acute pain or with sedatives; 50% started lower doses and slower escalations.²⁷ Del & his fellow authors examined records of 13000

emergency room visits from January 2012 to July 2013 for dental, back, neck or nonspecific pains. After implementation of guidelines, the rate of opioid prescription was reduced by 23%.²⁸ In Pakistan, a survey in 2013 revealed about 1.6 million patients abused prescription opioids for non-medical needs. Pakistan is more prone to develop opioid epidemic due to its limited resources, low literacy rate and increasing opioid production in nearby Afghanistan. However impending opioid epidemic can be prevented by appropriate training of medical students and doctors about safe prescription of opioid analgesics.²⁹ Clinicians and health authorities are recommended to adopt guidelines to reduce frequency & misuse of opioid analgesic's prescription. The Government can adopt legislative measures to prevent opioid epidemic.

CONCLUSION

The study demonstrated that a clinician's awareness campaign can reduce the rate of opioid prescription along with promotion of its judicious use.

Author's Contribution:

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Conflict of Interest: The study has no conflict of interest to declare by any author.

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