

Survey on the knowledge of drug prescription among dental students

Rinieshah Nair R.Baskran

Undergraduate,
Saveetha Institute of Medical and Technical Sciences,
162 Poonamallee High Road,
Tamil Nadu, Chennai

CO- Author

Dr.Ezhilarasan

Senior lecturer,
Department of pharmacology,
Saveetha Institute of Medical and Technical Sciences,
162 Poonamallee High Road,
Tamil Nadu, Chennai

Abstract

AIM: To evaluate the knowledge of appropriate drug prescription among dental students.

OBJECTIVE: To assess the drug prescription knowledge and common mistakes made during drug prescription among dental students.

BACKGROUND: The knowledge on drug prescription is of the utmost importance as it deals with a foreign agent and its biocompatibility in a patient's body. As dental students, they are still paraded with various means of learning, hence they are exposed to various teaching methods by more than one staff from their respective clinics. Moreover, as students of the 21st century, the internet serves as their quickest and most reliable source of information. Lack of drug prescription knowledge among dental students will lead to the birth of unethical dentists in the future. Each drug has its very own mechanism of action and purpose. The simplest of mistakes due to the lack of knowledge of drug prescription can bring grave consequences for both the patient and the dentist.

REASON: To deliberate the knowledge on drug prescription among dental students and to understand how well the dental students are equipped with proper drug prescription knowledge.

Keywords: drug, prescription, knowledge, pharmacokinetics, pharmacodynamics

Introduction

The questionnaire was distributed among dental students to assess their knowledge on drug prescription. The inherent defect of open-ended questions is that respondents are able to answer in any tone they please; this defect can become an asset, however, as the responses may provide new categories to investigate and subsequently suggest new possibilities for relationships and hypothesis. Even though these students were not yet fully responsible for prescribing, it is the students duty to become someone highly competent in their professional practice(de Vries, Henning et al. 2012). The most frequent reason for prescription is infection, when, in fact, pain is the main reason that patients go to visit the dentist. Often, pain is the result of infection; it should always be treated(Hargreaves and Abbott 2005). It is very important to use appropriate diagnostic methods to differentiate the type and the origin of the pain so that proper treatment can be provided(Hersh, Kane et al. 2011). The most important factor for the proper use of NSAIDs is to know the pharmacokinetics and pharmacodynamics of each particular substance, as well as the small differences between drugs and the general properties that they share(Hersh, Kane et al. 2011).

The most common NSAIDs used in the treatment of acute dental pain is dichlophenac(Chang, Desjardins et al. 2002). Most of the students opted dichlophenac as the most common NSAID for acute dental pain which is accurate. Ibuprofen is also an NSAID that is used to relieve pain, but compared to diclofenac, it is least effective in terms of function. Paracetamol is also an NSAID that can be prescribed for dental pain. Both paracetamol and ibuprofen, when prescribed together, perform better as a combined drug in treating acute dental pain(Mehlish, Aspley et al. 2010). Naproxen on the other hand, inhibits inflammation as a whole and is not very effective in treating acute dental pain(Kiersch, Halladay et al. 1993).

When asked about their common source of information, the internet was statistically the highest source compared to prescription books, staff and classmates. The internet is able to provide information as swift as we needed it to be and can be obtained anywhere, anytime. However, not all information on the internet is legitimate. The information that is found on the internet can be edited and posted by anyone who may or may not possess proper knowledge on the subject. Obtaining information from an unreliable source will not only gravely affect the health of the patient but also jeopardizes the perception of the people towards the dentist as a practitioner.

The dosage of a prescribed drug is crucial depending on the degree of pain experienced by the patient(Haas 2002). In this survey, 50.3% of the students are aware of the importance of the dosage of the drugs that need to be given. The rest are either unsure or are

unaware of it entirely. This is highly concerning as dental students should be able to prescribe drugs at required dosage for the best results and to relieve the patient from the discomforting pain. The route of administration of the drug is also very consequential. The route of the administration of the drug will affect the bioavailability of the drug in the body.(Shojaei 1998) Different drugs have different means of administration that rely solely of the route of which it is administered from.

The yellow card scheme is used widely in the UK as a record on a patient's health and medical status. The yellow card scheme is also used to keep information on the patient's susceptibility and allergic reactions towards a drug. This can be used for further reference when treating another patient. The scheme is designed for reporting serious suspected adverse reactions to all medicines and all reactions to new products(Taylor and Pemberton 2013).

Our study had some limitations. For instance, the sample size was small, and the questionnaire had only 9 multiple choice questions and one open-ended question. In conclusion, the knowledge of pharmacology among dental students has gaps that could affect patient safety and the liability of a dentist in the near future. More studies are needed to determine whether this issue affects the quality of patient care, and the effectiveness and safety of treatment.

Materials and Methods

This study is a survey on the knowledge of drug prescription among 200 dental students. It was carried out by using a self-administered questionnaire with 9 multiple choice questions and one open-ended question.The questionnaire was conducted via Survey Planet to allow a wider range of coverage. Survey Planet is an online survey site that makes data collection so much simpler.This study had some limitations. For instance, the sample size was small, and the questionnaire had only 9 multiple choice questions and one open-ended question.

Results

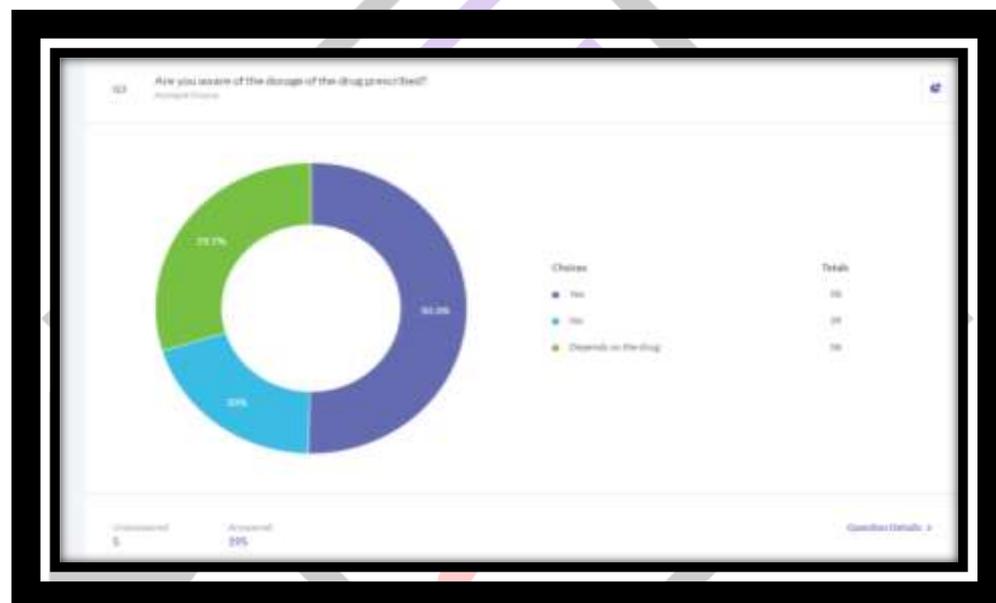
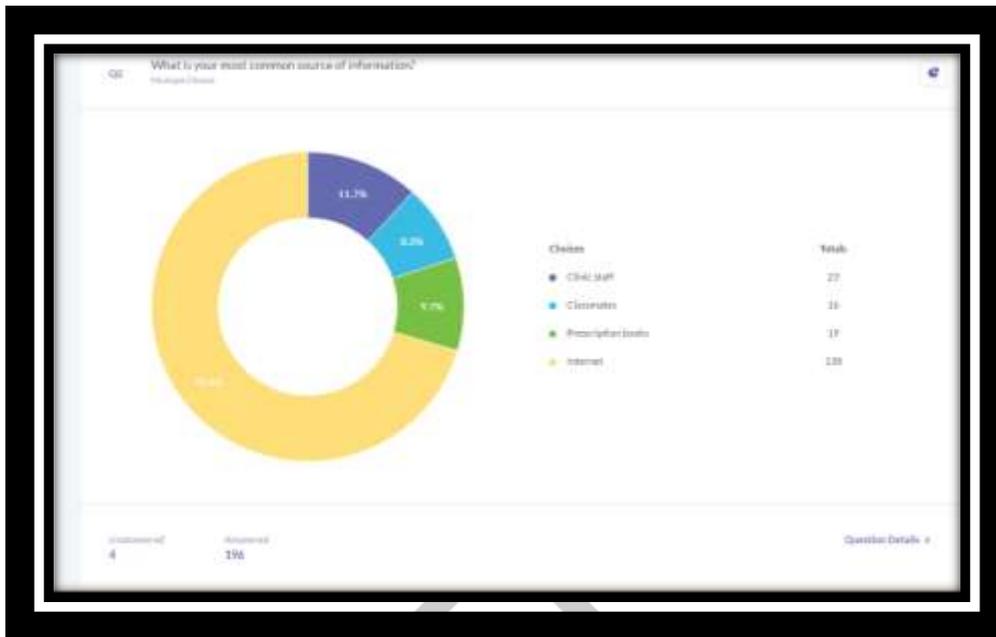
This survey was conducted with the aim of evaluating the knowledge of appropriate drug prescription among final year dental students from various dental colleges. The objective was to assess the drug prescription knowledge and common errors made during drug prescription among dental students. The purpose behind this survey is to deliberate the knowledge on drug prescription among dental students and to comprehend how well they're equipped with proper drug prescription knowledge.

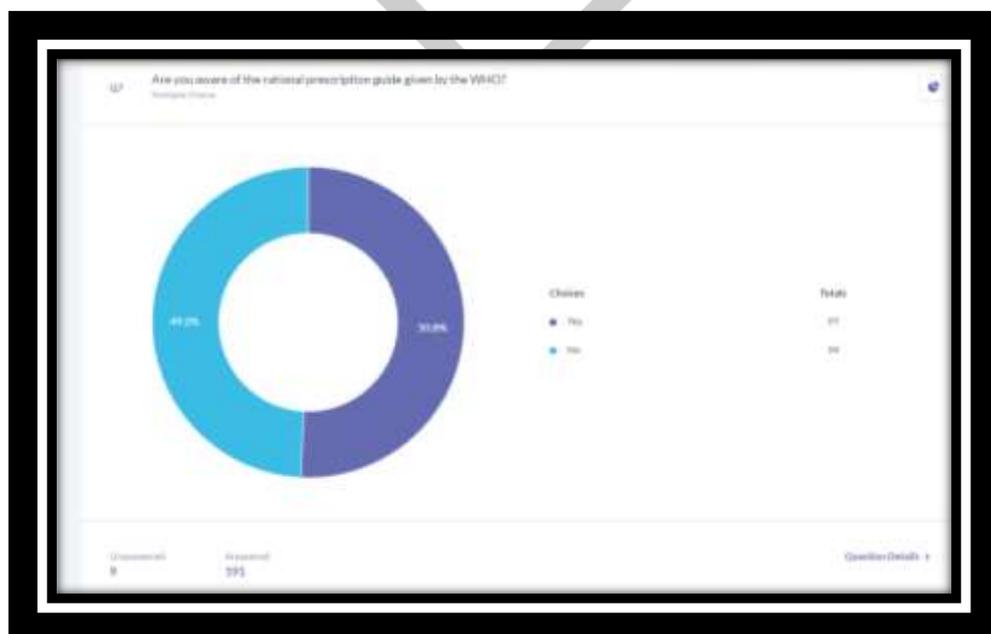
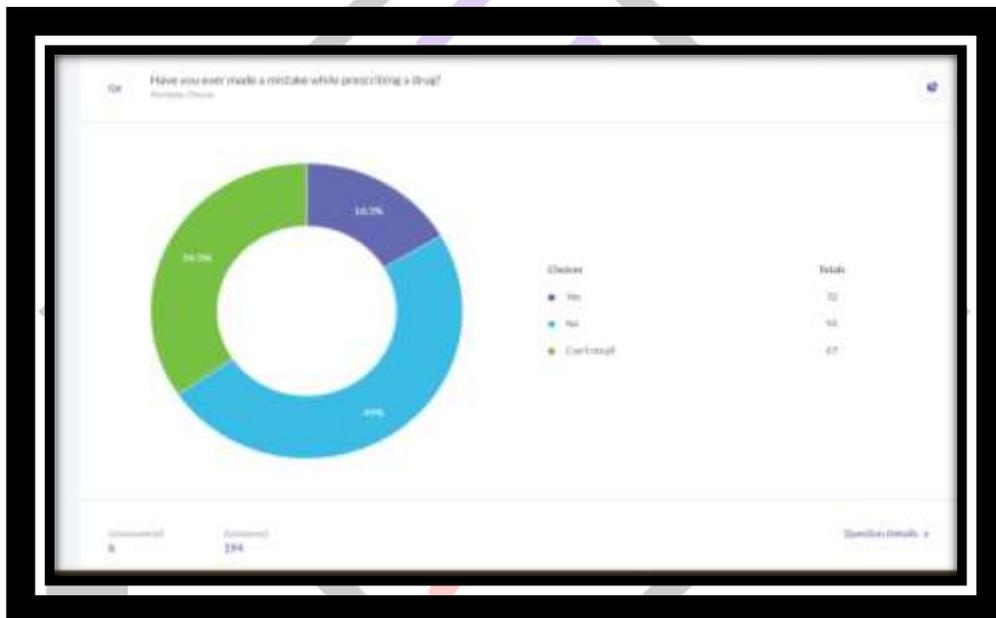
When asked about their common source of information, the internet was statistically the highest source compared to prescription books, staff and classmates. The internet is able to provide information as swift as we needed it to be and can be obtained anywhere, anytime. However, not all information on the internet is legitimate. The information that is found on the internet can be edited and posted by anyone who may or may not possess proper knowledge on the subject. Obtaining information from an unreliable source will not only gravely affect the health of the patient but also jeopardizes the perception of the people towards the dentist as a practitioner.

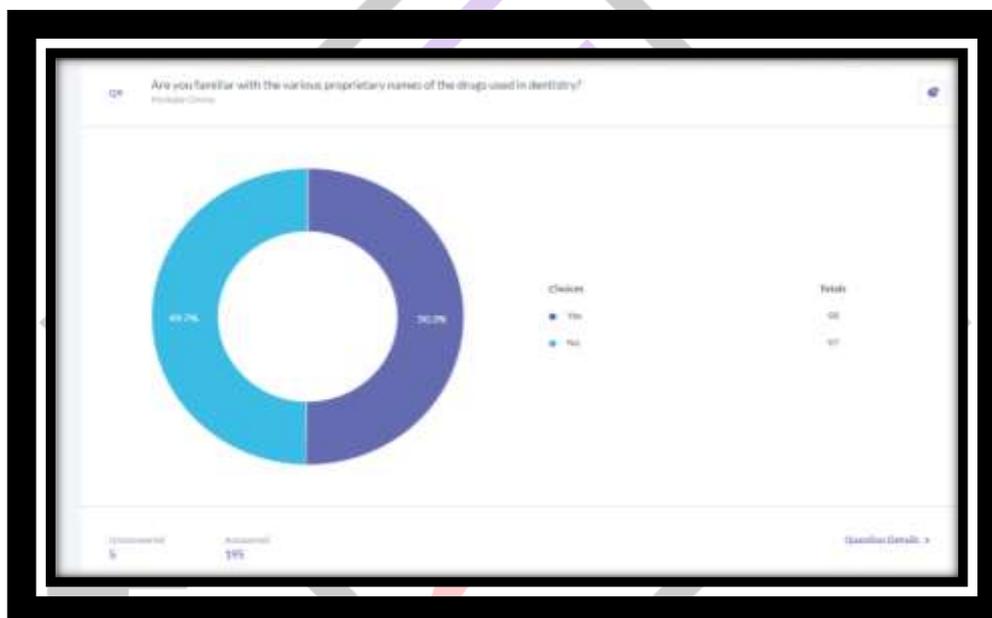
The dosage of a prescribed drug is crucial depending on the degree of pain experienced by the patient (Haas, 2002). In this survey, 50.3% of the students are aware of the importance of the dosage of the drugs that need to be given. The rest are either unsure or are unaware of it entirely. This is highly concerning as dental students should be able to prescribe drugs at required dosage for the best results and to relieve the patient from the discomforting pain. The route of administration of the drug is also very consequential. The route of the administration of the drug will affect the bioavailability of the drug in the body (Shojaei, 1998). Different drugs have different means of administration that rely solely of the route of which it is administered from.

The yellow card scheme is used widely in the UK as a record on a patient's health and medical status. The yellow card scheme is also used to keep information on the patient's susceptibility and allergic reactions towards a drug. This can be used for further reference when treating another patient. The scheme is designed for reporting serious suspected adverse reactions to all medicines and all reactions to new products (Taylor and Pemberton, 2013).









Q10 Are you aware of the 'Yellow Card Scheme'? If yes, what is its purpose?
Essay

Submitted Response	Date
No	Dec 20
To keep records of the patients.	Dec 20
To keep records of the patients.	Dec 20
No	Dec 20
To keep records of the patients.	Dec 20

Unanswered: 40 Answered: 115 Question Details >

Discussion

The questionnaire was distributed among dental students to assess their knowledge on drug prescription. The inherent defect of open-ended questions is that respondents are able to answer in any tone they please; this defect can become an asset, however, as the responses may provide new categories to investigate and subsequently suggest new possibilities for relationships and hypothesis. Even though these students were not yet fully responsible for prescribing, it is the students duty to become someone highly competent in their professional practice (De Vries et al., 2012). The most frequent reason for prescription is infection and pain is the main reason that patients go to visit the dentist. Often, pain is the result of infection; it should always be treated (Hargreaves and Abbott, 2005). It is very important to use appropriate diagnostic methods to differentiate the type and the origin of the pain so that proper treatment can be provided (Hersh et al., 2011). The most important factor for the proper use of NSAIDs is to know the pharmacokinetics and pharmacodynamics of each particular substance, as well as the small differences between drugs and the general properties that they share (Hersh et al., 2011).

The most common NSAIDs used in the treatment of acute dental pain is **dichlophenac** (Chang, Desjardins et al. 2002). Most of the students opted **dichlophenac** as the most common NSAID for acute dental pain which is accurate. Ibuprofen is also an NSAID that is used to relieve pain, but compared to diclofenac, it is least effective in terms of function. Paracetamol is also an NSAID that can be prescribed for dental pain. Both paracetamol and ibuprofen, when prescribed together, perform better as a combined drug in treating acute dental pain (Mehlich et al., 2010). Naproxen on the other hand, inhibits inflammation as a whole and is not very effective in treating acute dental pain (Kiersch and Halladay, 1994).

In conclusion, the knowledge of pharmacology among dental students has gaps that could affect patient safety and the liability of a dentist in the near future. More studies are needed to determine whether this issue affects the quality of patient care, and the effectiveness and safety of treatment.

Conclusion

In conclusion, the knowledge of drug prescription among dental students has gaps that could affect patient safety. More studies are needed to determine whether this issue affects the quality of patient care, and the effectiveness and safety of treatment.

REFERENCES

- Chang, D. J., P. J. Desjardins, E. Chen, A. B. Polis, M. McAvoy, S. H. Mockoviak and G. P. Geba (2002). "Comparison of the analgesic efficacy of rofecoxib and enteric-coated diclofenac sodium in the treatment of postoperative dental pain: a randomized, placebo-controlled clinical trial." *Clinical therapeutics* **24**(4): 490-503.
- de Vries, T., R. Henning, H. Hogerzeil and D. Fresle (2012). *Guide to Good Prescribing: a practical manual*. Geneva: World Health Organization Action Programme on Essential Drugs; 1994, WHO/DAP/94.11. Available at http://whqlibdoc.who.int/hq/1994/WHO_DAP_94.11.pdf. Accessed 19 January.
- Haas, D. A. (2002). "An update on local anesthetics in dentistry." *Journal-Canadian Dental Association* **68**(9): 546-552.
- Hargreaves, K. and P. Abbott (2005). "Drugs for pain management in dentistry." *Australian dental journal* **50**(s2): S14-S22.
- Hersh, E., W. Kane, M. O'Neil, G. Kenna, N. Katz, S. Golubic and P. Moore (2011). "Prescribing recommendations for the treatment of acute pain in dentistry." *Compendium of continuing education in dentistry (Jamesburg, NJ: 1995)* **32**(3): 22, 24-30; quiz 31-22.
- Jain, A., D. Gupta, D. Singh, Y. Garg, A. Saxena, H. Chaudhary, A. Singh and R. K. Gupta (2015). "Knowledge regarding prescription of drugs among dental students: A descriptive study." *Journal of basic and clinical pharmacy* **7**(1): 12.
- Kiersch, T., S. Halladay and P. Hormel (1993). "A single-dose, double-blind comparison of naproxen sodium, acetaminophen, and placebo in postoperative dental pain." *Clinical therapeutics* **16**(3): 394-404.
- Mehlich, D. R., S. Aspley, S. E. Daniels and D. P. Bandy (2010). "Comparison of the analgesic efficacy of concurrent ibuprofen and paracetamol with ibuprofen or paracetamol alone in the management of moderate to severe acute postoperative dental pain in adolescents and adults: a randomized, double-blind, placebo-controlled, parallel-group, single-dose, two-center, modified factorial study." *Clinical therapeutics* **32**(5): 882-895.
- Rauniyar, G., R. Roy, B. Das, G. Bhandari and S. Bhattacharya (2008). "Prescription writing skills of pre-clinical medical and dental undergraduate students." *Journal of Nepal Medical Association* **47**(172).
- Shojaei, A. H. (1998). "Buccal mucosa as a route for systemic drug delivery: a review." *J Pharm Pharm Sci* **1**(1): 15-30.
- Taylor, J. and M. Pemberton (2013). "Yellow card scheme." *British dental journal* **215**(2): 59-59.
- Chang DJ, Desjardins PJ, Chen E, Polis AB, McAvoy M, Mockoviak SH, Geba GP. Comparison of the analgesic efficacy of rofecoxib and enteric-coated diclofenac sodium in the treatment of postoperative dental pain: a randomized, placebo-controlled clinical trial. *Clin Ther.* 2002;24(4):490-503.
- De Vries T, Henning RH, Hogerzeil H, Fresle D. *Guide to Good Prescribing: a practical manual*. Geneva: World Health Organization Action Programme on Essential Drugs. 2012, WHO/DAP/94.11. Available at http://whqlibdoc.who.int/hq/1994/WHO_DAP_94.11.pdf. Accessed 19 January.
- Haas DA. An update on local anesthetics in dentistry. *J Can Dent Assoc.* 2002;68(9):546-51.
- Hargreaves K, Abbott PV. Drugs for pain management in dentistry. *Aust Dent J.* 2005;50(4 Suppl 2):S14-22.
- Hersh EV, Kane WT, O'Neil MG, Kenna GA, Katz NP, Golubic S, Moore PA. Prescribing recommendations for the treatment of acute pain in dentistry. *Compend Contin Educ Dent.* 2011;32(3):22, 24-30; quiz 31-2.
- Kiersch TA, Halladay SC, Hormel PC. A single-dose, double-blind comparison of naproxen sodium, acetaminophen, and placebo in postoperative dental pain. *Clin Ther.* 1994;16(3):394-404.

Mehlisch DR, Aspley S, Daniels SE, Bandy DP. Comparison of the analgesic efficacy of concurrent ibuprofen and paracetamol with ibuprofen or paracetamol alone in the management of moderate to severe acute postoperative dental pain in adolescents and adults: a randomized, double-blind, placebo-controlled, parallel-group, single-dose, two-center, modified factorial study. *Clin Ther.* 2010;32(5):882-95.

Shojaei AH. Buccal mucosa as a route for systemic drug delivery: a review. *J Pharm Pharm Sci.* 1998;1(1):15-30.

Taylor J, Pemberton MN. Yellow card scheme. *Br Dent J.* 2013;215(2):59.

