## ORIGINAL ARTICLE

# ASSESSMENT OF PRESCRIPTION WRITING SKILLSAND ERRORS AMONGST DENTAL HOUSE SURGEONS AND FACULTY MEMBERS

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**ABSTRACT**

*Objective:*The study aimed to assess knowledge and prescription writing skills among faculty members and especially the house officers regarding each prescription writing parameter.

*Method:* A total of 101 participants were part of the studywho filled the forms with consent. However,the main focus of the study was the house officers in particular. The study was conducted at Baqai Dental College. A questionnaire was designed to assess the prescription writing skills.

*Results:* Most of the participants (62.4%) attendeda course on how to prescribe medicines. A significant number of participants (79.2%) had good knowledge and awareness about the properties of the medicines they were prescribing.

*Conclusion:* The current study concluded that the knowledge and prescription writing skills of the majority of house surgeons were adequate in many vital details and skills.

**Keywords:** Knowledge, prescription writing skills, house officers, prescription, dentistry

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## INTRODUCTION

A Prescription is termed as an important written instruction given to patients by the health care provider. It is one of the essential steps inthe management strategy for the patient plan. The Latin word prescription, “pre” means “before”while “scribe” refers to “writing” [1].According to the World Health Organization (WHO), “prescription should include name, address, the telephone of the prescriber, date, generic name of the drug, strength, dosage form, total amount, label: instructions, warnings, name, address, age of patient, signature or initials of prescriber”.Drug prescription is a complex task that requires bothacademic knowledge and practical expertise [2].There is a direct relation between prescription writing skills and patient well-being as well as the economic status of a country, making it a vital part of the healthcare system globally. A graduate's ability to master and practice it after becoming an independent health practitioner is therefore regarded as a significant skill [3]. Dental professionals should know enough about drugs like other health care practitioners. They are also required to follow the prescription principles according to international law. It is generally accepted that dental prescriptions contain pharmaceutics items that are limited to providing short-term or specific drug

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therapy or drugs prescribed for dental surgery, but the evidence suggests that dentists in many countries do not possess good medical knowledge, which leads to some mistakes when it comes to writing prescriptions [4].

A prescription error is defined as a failure in the prescription writing process that results in a prescription that contains the wrong information about one or more of its normal elements. The most common error in prescription writing is human error; however, there are many reasons why prescription errors may occur. In prescription writing, errors can be attributed to incorrect formatting, a lack of clarity in comprehending the prescription, or spelling errors. A prescription error may be a commission error or an omission error. An incomplete prescription refers to an error of commission, while a prescription that has the wrong details refers to an error of omission [5]. It has been observed that irrational prescribing is prevalent globally, but in developing countries, it is more common and increasing constantly due to insufficient resources and funds. It is possible to promote rational prescribing and avoid prescription errors by quantifying it. The World Health Organization (WHO) in collaboration with the International Network for Rational use of Drugs has developed indicators to measure rationality in prescriptions [6,7].Dentists, like other healthcare professionals, need to possess sufficient knowledge about drugs. They must adhere to prescription guidelines according to international law.Consequently, errors in prescription writing may occur [4]. Mendonca et al. discovered that approximately one-fourth of prescriptions written by dentists featured illegible medication names [8]. The study conducted by Nezafati*et al.*revealed that 98.05% of prescriptions written by dentists contained errors [9]. Ogunbodede*et al* found various types of errors in dentists' prescriptions, including errors in dosing, frequency, and duration of drug usage [10].

Most adverse drug events (68 to 75%) are reported to have been related to incorrect prescription writing [5].It is essential for dental students to have sufficient knowledgeof the understanding of medications used to preserve the safety of the patient [5].The present study was designed to assess prescription writing skills and prescription errors amongst dental house surgeons and faculty members.

## METHODOLOGY

The present cross-sectional study was carried out after approval from the Ethical Review Board of Baqai Dental College, Baqai Medical University for three months (BDC/ERB/2021/003).A convenient sampling technique was used anddental house surgeons and Faculty members working in respective departments were included in the study. Participants who were not present on the day of data collection were excluded from the study. Prescription writing skills were assessed using a questionnaire. Verbal informed consent was obtained from the participants before the start of the study. The participants were required to select the right answer to each question in the form. All forms contained the same clinical question to maintain standard assessing criteria. The survey forms were distributed and collected without any material or electronic assistance on the same day to determine the participants' proficiency.

A pre-validated Questionnaire was used consisting of 19 questions; out of which 14 were to be ideally and specifically mentioned in a well-written and professional prescription.Filled forms were then analyzed and scored for Duration of medicine, Route of medicine, Strength of medicine, Frequency of medicine, Date on prescription, Sign/stamp of the prescription, Diagnosis of disease, Emergency contact, Patient’s contact/address, Patient’s age, Patient gender, Symbol Rx, Address of the hospital.

Data was entered and analyzed by using IBM Statistical Package for Social Science (SPSS) software version 22. The frequency and percentages of the categorical variables were calculated [11].

## RESULTS

A total of 120 faculty members and house officers of Baqai Dental Collegeparticipatedin the study. Out of 120 questionnaires,only 101 forms were received. The response rate was 84.1%. Most of the participants

(62.4%) attendeda course on how to prescribe medicines. Many of the participants (79.2%) had quite knowledge and awareness about the properties of the medicines they were prescribing.

The form was scoredfor 19parameters; of which (14) parameters were to be specifically and ideally mentioned in a professional prescription. Symbol Rx (88.1%) and patient's gender (85.1%) were the most listed followed by patient's age (82.2%), sign/stamp on prescription (82.2%), date on prescription (80.2%), duration of medicine (77.2%), route of medicine (73.3%), strength of medicine (71.3%), diagnosis of disease (69.3%), frequency of medicine (60.4%).

Parameters that were least listed include emergency contact (58.4%), patient's address/ contact (56.4%), and address of the hospital (54.5%). Table 1 gives a detailed account of each parameter.

**Table 1:Descriptive statistics regarding prescription writing skill**

| Parameters | Frequency(%) N=101 | |
|---|---|---|
| **Course attended** | 63 | 62.4% |
| **Awarenessof drug properties** | 80 | 79.2% |
| **Duration of medicine** | 78 | 77.2% |
| **Route of medicine** | 74 | 73.3% |
| **Strength of medicine** | 72 | 71.3% |
| **Frequency of medicine** | 61 | 60.4% |
| **Date on prescription** | 81 | 80.2% |
| **Sign/stamp the prescription** | 83 | 82.2% |
| **Diagnosis of disease** | 70 | 69.3% |
| **Emergency contact** | 59 | 58.4% |
| **Patient's contact/address** | 57 | 56.4% |
| **Patient's age** | 83 | 82.2% |
| **Patient gender** | 86 | 85.1% |
| **Symbol Rx** | 89 | 88.1% |
| **Address of the hospital** | 55 | 54.5% |

## DISCUSSION

Inaccuracies in the process of prescription writing commonly arise as a result of human errors. These errorscan be prevented through the acquisition and application of this fundamental competency by newly qualified physicians. Consequently, the acquisition of prescription writing proficiency assumes paramount importance in ensuring the efficacy of clinical practice[12.]The results of this study as well as others suggest that most house officers miss out on key information while writing a prescription, such as the address of the hospital, patient's contact, and emergency contact. Shahzeen S et al in a study reported the missing key details by the majority of the house officers [12].

The parameters listed in the present study by more than 50 % of the participants are just six out of a total of 14 and include the doctor's signature, symbol Rx, drug dose, frequency, duration, and patient's

age. Age is significant as it encourages the choice of the right dosage of medication to be prescribed to the patient. The address of the hospital was mentioned by 54.5% and the emergency contact on the prescription was mentioned by 58.4% of the participants. Only 55.4% of the participants mentioned the brand name of the specific drug and 44.6% mentioned the generic name of the drug. Shahzeen S et al in a study reported that the hospital address was completely ignored (0 %) as well as the name of the hospital (0 %). The fact that 95% of house officers omitted the date in prescriptions is concerning as it shows their lack of understanding of the legal significance of prescription writing [12].

Babar et al in a study reported that in 87% of the prescriptions, the patient's name was included, in 55% of the scripts, the patient's age was mentioned, and in 42% the gender of the patient was specified [13].Baig et al reported even more alarming results, with 89.5% of scripts missing the patient's name, 92% missing the patient's age, 95.5% lacking gender information, and all scripts lacking the patient's address [14]. It is worth noting that the absence of the patient's address is a common trend among researchers [15,16]. In another study conducted by Dyasanoor and Urooge mostof the doctors mentioned the patient's name, age, and gender, but none specified the OPD number or address [17]. Baber P et al [18] in a study reported that information regarding doctor’s name, address and contact numbers were reported by 3.8%, 7.2% mentioned date and 10% mentioned patients name, age and address.

In the present study, 56.4% of prescriptions mentioned patient addresses. Whereas the study conducted by SheikhD et alreportedthat address was present in none of the prescriptions [5].About 73.3% mentioned the route of administration in the present study,

It is recommended by the World Health Organization to include additional patient information on prescriptions in the form of specific instructions or warnings about the prescribed drugs. This is in addition to the verbal instructions given to the patient [12]. It is important for healthcare providers to not rely solely on the patient's memory. Shockingly Shahzeen S et al in a study found that 92.33% of the prescriptions did not include this element [12]. Baig et al found a similar issue, with 57% of prescriptions missing patient instructions [14]. Not including this vital information may result in changes to the dose interval, reduced efficacy, and desired effects of the drug. This can also cause an increased financial burden on the public health system that provides free medication [19].

**Limitations**

However, the study possesses certain limitations as it did not allocate substantial attention towards the precision of the information, but rather emphasized the quantity of parameters enumerated. Only in instances where the drug dosage, frequency, and duration were explicitlymentioned, albeit inaccurately were evaluated. Additional investigations that concentrate on both the accuracy of drug information and the comprehensive understanding of prescription writing parameters are imperative to thoroughly evaluate the competence of house officers.

## CONCLUSION

The current study concluded that most house surgeons' knowledge and prescription writing skills were adequate in many vital details and skills. Certain outcomes do feature arequirement for more instructive interventions concerning solution composing aptitudes amid undergrad studies and close checking duringhousejob.

All interventions should be in constant review to get the best possible outcome. House officers should be assessed to the core before awarding them their completion certification.

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**Author’s Contribution**

AW:Overall final checking and manuscript writing / drafting.

RF:Concept, design and statistical analysis

SS:Literature search and data acquisition SN, NA, AR: Data collection and data entry

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(a) either conception and design or else analysis and interpretation of data and to (b) drafting the article or revising it critically for important intellectual content and on (c) final approval of the version to be published.

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