

# Compliant Prescription Writing-Dilemma or Reality?

Compliant  
Prescription  
Writing-Dilemma  
or Reality

Hina Khan<sup>1</sup>, Syed Muhammad Masood Ali<sup>2</sup>, Tooba Mahmud Gauhar<sup>3</sup>,  
Bilal Suria<sup>4</sup>, Waqas Hussain<sup>5</sup> and Aymen Arif<sup>5</sup>

## ABSTRACT

**Objective:** To better understand the idea of good prescription writing practices and to provide awareness to medical science students and clinicians of Al-Tibri Medical College and Al-Ibrahim Eye Hospital, Isra University Karachi.

**Study Design:** Cross-sectional / observational study

**Place and Duration of Study:** This study was conducted at the Al-Tibri Medical College and Karachi Hospital (ATMCH) and Al-Ibrahim Eye Hospital (AIEH) from August 2021 to November 2021 for a period of 04 months.

**Materials and Methods:** It consisted of two sections such that the first section discussed the demographic data of the participants including age, gender, field of specialization, Medicine professional year, relationship status etc. While, the other section evaluated the skill set. Data was analyzed using SPSS Version 20.0 with level of significance being kept at P-value  $\leq 0.05$ .

**Results:** A total of 160 responses were generated. Out of which 90 respondents (56.25%) were male while remaining 70 participants (43.75%) were females with the mean age of  $22.0 \pm 3.0$  years. It has also analyzed the understanding of compliant prescription writing and provided awareness in this regard to the participating individuals (i.e., 6.62% on average with a Standard deviation of  $5.0 \pm 0.3$ ). About 74.7% (n=119) from 160 participants believed that there is a lot of malpractice to write a good prescription by the practitioners while only 7.6% (n=12) disagreed with the idea. However, to our surprise, a good amount of people i.e., 17.7% (n=29) were have no clue about compliant prescription writing ability.

**Conclusion:** Compliant prescription writing is a skill which should be acquired by every clinical practitioner and they should have complete knowledge including pharmacodynamics of the therapeutic drug to avoid any inevitable circumstances in the clinical set-up.

**Key Words:** Prescription, compliance, graduate, medicine, clinicians, therapy, drug.

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## INTRODUCTION

A well-written prescription is an authorized set of instructions by a healthcare professional to its patients consisting of essential directions to treat a specific condition. Medical students strive to learn a good prescription writing because of the fact that many consultations end on that and do not require any further medical surveillance. However, it is becoming difficult day-by-day because of the poor knowledge and malpractice of the medical practitioners.

<sup>1</sup>. Department of Anatomy / Pharmacology<sup>2</sup> / Surgery<sup>3</sup> / Urology<sup>4</sup> / Medicine<sup>5</sup>, Al-Tibri Medical College and Hospital, Isra University. Karachi Campus.

Correspondence: Prof. Dr. Hina Khan, Deputy Director Research & PG Affairs, Department of Anatomy, Al-Tibri Medical College, Isra University Karachi Campus.

Contact No: 0346-3318553

Email: drhinasalman@gmail.com

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The key factors contributing to a well-structured prescription includes (i) Accuracy in diagnosis (ii) Authorized practitioners (iii) Efficacy and specificity of a drug (iv) Precision drug delivery (v) Clinical expertise (vi) Legibility of a prescription (vii) and Data records of patients. Failing to any one of the components may lead to unforeseen medical negligence. <sup>(1)</sup>

According to the Drug and Cosmetic Act, there are two types of prescriptions legally. One that is prescribed by a health professional only, while the other can be obtained without prescription, usually termed as over-the-counter drugs or non-prescribed medicaments (such as paracetamol, cough syrup etc.)<sup>(2)</sup>. A standard prescription should address patient's demographic data (i.e., name, age, sex, ethnicity, blood groups, cast, weight etc.). While a proper medication should be prescribed by the consultant keeping allergic status and medical complexities in mind. Effective and safe dose of drug should be prescribed <sup>(3)</sup>.

The World Health Organization defines a balanced prescription which defines patients' identity, mode of drug administration as well as pharmaceuticals basic principles including the form of drug, frequency and dose of drug, sequels of drug, and its duration in accordance with the patients' health standing <sup>(4)</sup>. The authorities should train medical students by arranging learning opportunities, assessments, tutorials, seminars,

and problem-related workshops to acquire the skill of writing a good prescription. These complications arise due to the lack of command, competency and knowledge of clinical pharmacology or pharmacotherapy<sup>(5)</sup>. Cognitive abilities to think out-of-the box and differently for every patient can reduce these malpractices. Inappropriate prescription has been observed in South-Asian countries more therefore, Drug Regulatory Authority of Pakistan (DRAP) has established a guideline for treatment, control and management of drugs and its prescription to prevent unavoidable circumstances<sup>(6)</sup>.

Unnecessary complications (for instance drug mortality or toxicity) and suffering can be avoided in this manner by omitting the basic errors by the healthcare professionals. Drug prescription is a common practice among clinicians which further decides the subsequent clinical procedures. Unregularized or inappropriate prescription can cause great harm to the end user. Therefore, rational treatment that is best effective drug in the least time to cure a disease and that too if cost-effective can reduce these burdens<sup>(7)</sup>.

To better understand the idea of good prescription writing practices and to provide awareness to medical science students and clinicians of Al-Tibri Medical College and Al-Ibrahim Eye Hospital, Isra University Karachi.

## MATERIALS AND METHODS

This cross-sectional study was designed and conducted at Al-Tibri Medical College and Karachi Hospital (ATMCH) and Al-Ibrahim Eye Hospital (AIEH) from August 2021 to November 2021. Medicine students (of M.B.B.S. 3<sup>rd</sup> year, 4<sup>th</sup> year, and 5<sup>th</sup> year) and Clinicians were included as participants. Participants were asked to fill e-forms discussing their perception of compliant prescription writing after their consent. The survey-based cross-sectional observational study consisting of two sections such that the first section discussed the demographic data of the participants including age, gender, field of specialization, Medicine professional year, relationship status etc. While, the other section analyzed the understanding of compliant prescription writing and provided awareness in this regard to the participating practitioners. Data was analyzed using SPSS Version 20.0 with 95% level of significance i.e., P-value  $\leq 0.05$ .

## RESULTS

A total of 160 individuals from different years of medicine of Al-Tibri Medical College including M.B.B.S. third year, fourth year, and final year students (86.1%) along with various clinicians (13.9%) from Al-Ibrahim Eye Hospital had participated in the proposed study. The demographic data included name, age, gender, marital status, and contact details of the respondents. Out of 160 participants, 90 respondents (56.25%) were male while remaining 70 participants (43.75%) were females.

Maximum responses were generated from a mean age group of 20-24 years (82.4%) which suggested that young doctors or clinicians wanted to know more about compliant prescription writing unlike others falling under the age of  $22.0 \pm 3.0$  on average. Table 1 also suggested that the clinicians of AIEH of various specialization fields (~5.6% each) such as Pharmacology, Dermatology/Gastroenterology, Family Medicine, General Physician, General Surgery, Pediatrics, Neurosurgery, Urology, Pathology have attempted this survey whereas, the maximum number of clinical participants were from neurosurgery department (i.e., 11.1%).

Question 1 till 12 were asked to evaluate the good prescription writing skills among the responsible authorities and especially to the young doctors/graduates. And according to the data generated from this survey indicated by Table 2, 80.7% from a total of (n=160) respondents were aware about the compliance and importance of prescription writing in the clinical set-up while 19.3% clinicians and medical graduates did not know the value of a compliant prescription writing, thus encounter difficulties in prescribing the effective medication.

**Table No.1: Demographic Status of the participants (n=160)**

Variables	Characteristics	Frequency (n=160)	(%) age
Gender	Male	90	56.25%
	Female	70	43.75%
	Others (Transgenders)	0	0%
Age	19-24 years	103	64.1 %
	25-30 years	10	6.5%
	>30 years	47	29.4%
Relationship Status	Married	28	17.7%
	Single	126	78.5%
	Engaged	2	1.2%
	Others (Divorced, widowed)	4	2.6%
Medical Student	Yes	138	86.1%
	No	22	13.9%
Professional year (M.B.B.S.)	3rd year	75	46.8%
	4rth year	57	35.5%
	Final year	6	3.8%
	Not applicable	22	13.9%
Clinician	Yes	18	11.4%
	No	142	88.6%
Specialization (Clinicians)	a) Pharmacology	1	5.6%
	b) Dermatology/ Gastroenterology	1	5.6%
	c) Family Medicine	1	5.6%
	d) General Physician	1	5.6%
	e) General Surgery	1	5.6%
	f) Pediatrics	1	5.6%
	g) Neurosurgery	1	11.1%
	h) Urology	1	5.6%
	i) Pathology	1	5.6%

**Table No.2: Perception and Practice about Drug Prescription among Atmch and Aieh Fellows (N=160)**

S. No.	Questionnaire	Agree (%)	Disagree (%)	Don't know (%)	P-values
1.	Do you think a good prescription should be legible (i.e., hand-written, dated, duly signed)?	98.7	1.3	0	≤0.05
2.	Do you think a good prescription must contain patient's basic information (i.e., name, age, sex, address, weight, contact details etc.)?	91.1	6.3	2.5	≤0.05
3.	Do you think a good prescription must state all the information regarding dosage (i.e., quantity, route, timings, and frequency)?	98.7	0	1.3	≤0.05
4.	Do you think if a previously prescribed medicine has been changed for some reason, the old entry must be discontinued?	65.8	22.8	11.4	≤0.05
5.	Do you think a good prescription must be signed by an authorized prescriber?	88.6	2.5	8.9	≤0.05
6.	Do you think a practitioner should prescribe a formulation with its generic name?	48.1	41.8	10.1	≤0.05
7.	Do you think a practitioner should prescribe a formulation with its trade (common) name?	43	44.3	12.7	≤0.05
8.	Do you think if a combination of medicine must be clearly stated or not in a prescription?	87.3	6.3	6.3	≤0.05
9.	Do you think a medical practitioner must prescribe a medicine keeping the allergic status of patient in mind?	91.1	6.3	2.5	≤0.05
10.	Do you think the prescription must be written on an official registered note pad?	82.3	12.7	5.1	≤0.05
11.	Do you think a consultant should prescribe an effective medicine to cure the disease?	94.9	3.8	1.3	≤0.05
12.	Do you think the dose should be prescribed in International Unit (such as g, mg, mL, and L)?	83.5	10.1	6.3	≤0.05
13.	Do you think there is a lot of malpractice to write a good prescription by the practitioners?	74.7	7.6	17.7	≤0.05

Mean= 80.7%, Chi-square test is applied.

Question 6 and 7 were asked to evaluate the sense of generic and trade name among the medical graduates and young practicing doctors. The data suggested that practitioners have not much aware about the difference between the generic and brand name of a drug. About 41.8% participants believed that doctors should not

prescribe the drug with its generic name (i.e., real formulation) and about 10.1% partakers didn't actually know the difference between the two determinants.

The proposed study has also provided awareness to the clinical practitioners about the authorized drug prescriber and registered drugs. Question 1, 5, and 10

were asked to analyze the knowledge about the said parameters and legibility of a prescription or a prescriber. On average 89.87% participants agreed to the authorization and legalization of a prescription while the rest 11.23% either disagreed or have no clue about the regularization of a standard medicine. Despite of having a clear basic understanding of the mode of action of drug, these young practitioners or clinicians don't know about the legibility of prescription and prescriber could be a matter of serious concern. So, this survey provides a detailed responsiveness on such important subject.

Question 3 and Question 12 evaluated the most frequent problem of the clinicians i.e., regarding effective dosage including quantity, route, timings, and frequency of a therapeutic dose. It has been observed that young doctors who are new to the clinical practises were encountering much difficulty in prescribing an effective dose. According to this survey, 98.7% participant agreed to the prescription of an effective dose while 1.3% were totally unaware of its importance.

**Table No.3: Frequent errors or problems in compliant prescription writing**

Errors	Frequency (f)	Percent (%)
Inappropriate dosage	61	37.8
Ineffective duration of treatment	32	20.0
Malpractises in taking history of a patient	39	24.4
Incompliant Prescription writting.	14	8.9
Knowledge of drug interaction (mode of action etc)	14	8.9

## DISCUSSION

The World Health Organization stated the rational use of drugs such that the patient should receive prompt, accurate and appropriate therapeutic dose to ease his/her clinical need. According to them, this should meet their utter necessity within an adequate time period plus cost-effective<sup>(8)</sup>.

In this proposed study, only 6.62% on average medical science students and clinicians of ATMCH and AIEH, Isra University Karachi don't know about the compliant prescription writing and its importance with a Standard deviation of  $5.0 \pm 0.3$ . This shows that the newly graduated students and young practitioners should be given proper trainings and workshops to reduce the burden of incompliant prescription writing by increasing the skill set.

Moreover, Pharmacological trainings under the professional and experienced practicing seniors should be increased to cater a broad spectrum of patients varying in age, gender, socio-economic and cultural status to provide them with the best available treatment timely<sup>(9)</sup>. This will offer the young lot with the different treatment options as to why and when a particular drug is prescribed for a specific time duration to reduce the ailment<sup>(10)</sup>. Table 3 highlighted the frequent errors in prescription writing among which 37.8% (f=61) were facing problem in dosage recommendation resulting in recurrent and unavoidable errors. Whereas, 24.4% (f=39) errors in submissive prescription writing were due to incomplete or improper history taking from a patient. About 74.7% (n=119) from 160 participants believed that there is a lot of malpractice to write a good prescription by the practitioners while only 7.6% (n=12) disagreed with the idea. However, to our surprise, a good amount of people 17.7% (n=29) were have no clue about compliant prescription writing.

## CONCLUSION

Medical science students and clinicians of Al-Tibri Medical College and Al-Ibrahim Eye Hospital, Isra University Karachi, however, are very well aware of the importance of good prescription writing practices but still requires better skill development trainings and courses to make a strong grip of clinical pharmacology, rational therapeutics and compliant prescription writing. For this purpose, the new batches should be provided with case-based scenarios and teacher-student group discussions especially during the early professional years and they must be incorporated in their curriculum to limit the errors and medical negligence.

### Author's Contribution:

Concept & Design of Study: Hina Khan  
 Drafting: Syed Muhammad Masood Ali, Tooba Mahmud Gauhar  
 Data Analysis: Bilal Suria, Waqas Hussain, Aymen Arif  
 Revisiting Critically: Hina Khan, Syed Muhammad Masood Ali  
 Final Approval of version: Hina Khan

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## REFERENCES

1. James H, Tayem YI, Al Khaja KA, Veeramuthu S, Sequeira RP. Prescription writing in small groups as a clinical pharmacology educational intervention: perceptions of preclerkship medical students. *J Clin Pharmacol* 2016;56(8):1028-34.

2. Stith SS, Vigil JM, Adams IM, Reeve AP. Effects of legal access to cannabis on scheduled II–V drug prescriptions. *J Am Med Directors Assoc* 2018; 19(1):59-64.
3. Evans SB, Martin DD, Kudner R. The Standard Prescription and APEX Accreditation: One Hand Washes the Other. *Practical Radiation Oncol* 2019; 9(6):389-91.
4. Yimenu DK, Emam A, Elemineh E, Atalay W. Assessment of antibiotic prescribing patterns at outpatient pharmacy using world health organization prescribing indicators. *J Primary Care Comm Health* 2019; 10:2150132719886942.
5. James H, Tayem YI, Al Khaja KA, Veeramuthu S, Sequeira RP. Prescription writing in small groups as a clinical pharmacology educational intervention: perceptions of preclerkship medical students. *J Clin Pharmacol* 2016;56(8):1028-34.
6. Latif A, Ansari MS, Ansari MI, Malik R, Sohoo AA, Sohoo F, et al. The Influences of Pharmaceutical Industry on Prescription Practices in Public and Private Hospitals of Islamabad-Pakistan. *Pak J Public Health* 2021;11(1):24-9.
7. Horn D. Learn from someone else's mistakes: Community pharmacy malpractice cases with error prevention recommendations. *Pharm Today* 2019; 25(7):40-54.
8. Panchbhai AS. Rationality of prescription writing. *Ind J Pharmaceutical Educ Res* 2013;47(4):7-15.
9. Widiyanto B, Riza M. The Effectiveness of Learning Methods by Measuring Accuracy and Rationality in Prescription Writing by Medical Students. *J Health Policy Management* 2021; 6(1):74-80.
10. Indriyanti RA, Awalia F, Kharisma Y. Assessing medical students' pharmacological therapy ability through a mobile application. *J Physics: Conference Series* 2020;1469(1):012058.