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Research Article

**ANALYSIS OF WRITING ANTIBIOTIC PRESCRIPTIONS AS A  
HABITS AND KNOWLEDGE IN YOUNG DOCTORS**Dr Syeda Ghanwa Zahra Gillani<sup>1</sup>, Dr Aleena Saif<sup>2</sup>, Dr Ummah Noor<sup>3</sup><sup>1</sup>Sheikh Zayed Medical College, Rahim Yar Khan<sup>3</sup>Services Institute of Medical Sciences**Article Received:** August 2020**Accepted:** September 2020**Published:** October 2020**Abstract:**

**Introduction:** Antibiotic resistance (AR) has become one of the most serious global issues of concern for health development today, threatening our ability to treat common infectious diseases. **Objectives:** The main objective of the study is to analyse the writing antibiotic prescriptions as a habits and knowledge in young doctors. **Material and methods:** This cross sectional study was conducted in Sheikh Zayed Medical College, Rahim Yar Khan during Sep 2019 to June 2020. It was descriptive study on antibiotic Prescription by young doctors of hospital. A self-completed questionnaire containing both closed and open ended questions was developed. **Results:** Ninety-four (67.1%) of the respondents had attended OPD of the hospital on antibiotic use in the last one year, 8.6% at least once in the last two years, and 7.1% in the last five years while 4.3% reported not having had any since commencement of dental practice. **Conclusion:** It is concluded that antibiotic prescription habits of young doctors vary in different cities of Pakistan. There is a trend to overprescribe in many cases.

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**INTRODUCTION:**

Antibiotic resistance (AR) has become one of the most serious global issues of concern for health development today, threatening our ability to treat common infectious diseases. AR can not only prolong illness, impose additional medical expenditure, and increase mortality, but also deter some common medical procedures, for example, caesarean sections, due to increased risk of infections [1]. There is a consensus that the misuse and overuse of antibiotics has contributed to the problem of AR. Inappropriate and over-prescription of antibiotics are prevalent worldwide. It was estimated that, in the USA, 30% of antibiotics are over-prescribed in outpatient settings, and the percentage of inappropriate antibiotic prescriptions can be as high as 50%. Irrational use of antibiotics is an even more serious problem in developing countries because of their fragile regulation systems and a lack of human capacity [2].

Physicians play a critical role in the global campaign against AR, simply because prescriptions are required for antibiotic usage. It is essential to understand how physicians prescribe antibiotics. Several systematic reviews concluded that both intrinsic factors (such as knowledge and attitudes of physicians) and external factors (such as system and organizational environment) have shaped the antibiotic prescribing behaviors of physicians. However, our understanding about their underlying mechanisms is still limited [3]. Despite the existence of practice guidelines, physicians may defy the guidelines and prescribe antibiotics in order to meet patient expectations or to avoid potential confrontations and complaints from patients. This process could involve some further compromises given that most prescribers are likely to be aware of the side-effects of the overuse of antibiotics [4]. Adding to the complexity is the impact of contextual factors. Physicians can be incentivized by professional, financial, regulatory, and cultural factors. There is a particular shortage of research

documenting how physicians prescribe antibiotics in developing countries [5].

**Objectives**

The main objective of the study is to analyse the writing antibiotic prescriptions as a habits and knowledge in young doctors.

**MATERIAL AND METHODS:**

This cross sectional study was conducted in Sheikh Zayed Medical College, Rahim Yar Khan during Sep 2019 to June 2020. It was descriptive study on antibiotic Prescription by young doctors of hospital. A self-completed questionnaire containing both closed and open ended questions was developed. The questionnaire included (i): general information, (ii): perception and knowledge of antibiotic resistance, (iii): reported management of oral problems, (iv): perceptions about oral infections and (v): perceptions of how people perceive oral problems. The socio-demographic characteristics of the young doctors were summarized using frequencies and percentages; cross tabulations were used to compare the respondents' score about practice regarding oral diseases with practice types; logistic models were performed to study the association between respondents' characteristics and score on reported practice

The data was collected and analysed using SPSS 19. Differences were considered statistically significant at  $p < 0.05$ .

**RESULTS:**

Ninety-four (67.1%) of the respondents had attended OPD of the hospital on antibiotic use in the last one year, 8.6% at least once in the last two years, and 7.1% in the last five years while 4.3% reported not having had any since commencement of dental practice. House officers and the female respondents were significantly more influenced by the patients into prescribing antibiotics than their respective counterparts ( $P = 0.001$ , [Table 1](#)).

**Table 01: Analysis of questionnaire according to frequency distribution**

Variable	Response	Category	Prevalence (%)	P
Knowledge on prophylactic use of antibiotics	Correct	Dentist	69.2	0.001
		PHDO	31.3	
		Public	33.3	0.005
		Private	57.1	
Patients' influence on antibiotic prescription	Strong to very strong	Male	27.6	0.001
		Female	66.7	
		Young doctors	31.3	0.001
		PHDO	72.2	
Indications for culture and sensitivity	Correct	Public	44.4	0.02
		Private	69.2	
Use of systemic antibiotics in any disease	Yes	≤2 years of last antibiotic course	66.0	0.01
		>2 years of last antibiotic course	50.0	
Antibiotic use in any therapy	Always and frequently	≤5 years of graduation	49.0	0.001
		>5 years of graduation	33.3	

**Table 02: Attitudes and behavioural intentions toward antibiotic prescriptions.**

Measurement	Scores (Mean ± SD)			
	General Practitioner	Surgeon	Gynecologist	p-value
Attitude				
Fear	1.07 ± 0.64	1.00 ± 0.62	1.31 ± 0.54	0.002
Ignorance	1.32 ± 0.44	1.21 ± 0.41	1.26 ± 0.38	0.140
Behavioral intention				
Prescribe antibiotics for upper respiratory tract infections	3.94 ± 2.09	4.58 ± 2.57	3.92 ± 2.14	0.221
Prescribe antibiotics	0.84 ± 0.61	0.86 ± 0.73	0.95 ± 0.59	0.761
Reduce antibiotic prescriptions	1.31 ± 0.52	1.30 ± 0.54	1.36 ± 0.50	0.694

**DISCUSSION:**

Irresponsible prescription of antimicrobials (AMs) is the driving factor for the growing antimicrobial resistance (AMR) crisis. Appropriate utilization of drugs necessitates optimal prescription habits. Prescriptive mishaps include inappropriate usage of drugs in the form of polypharmacy, inadequate dosage, failure to adhere to medical guidelines and inappropriate selection of drugs [6]. Among the most commonly inappropriately prescribed drugs are antimicrobials with the problem of bacterial resistance to commonly used antibiotics becoming a world-wide burden.<sup>2</sup>

Consequences of such resistance are grave, affecting both the economical and health sectors. These may take several forms including increased morbidity and

mortality, reduction in quality of antibiotic therapy, increased treatment costs, and un-justified loss of resources. These effects are more prominent in developing countries like Pakistan suffering both economical challenges and weak institutional foundations [7].

Adherence to appropriate prescriptive habits necessitates following the rational steps for optimal prescription including defining the correct diagnosis, planning a safe and effective treatment plan, appropriate drug selection, choosing the effective dosage and duration, writing the prescription, conveying enough information to the patients and evaluation of the treatment procedures according to the patient's responses [8].

In an effort to hinder antimicrobial resistance several parameters should be targeted including the inappropriate prescriptive practices. In order to achieve an improvement in this regard, an effective change in physician's behaviour should be sought [9]. This requires a detailed understanding of the physician's knowledge about antibiotic resistance, factors influencing their decisions and their actual day to day prescriptive practices. This understanding is fundamental for development of optimal intervention strategies. KAP studies offer a great tool to investigate the driving forces behind the antibiotic prescriptive habits [10].

### CONCLUSION:

It is concluded that antibiotic prescription habits of young doctors vary in different cities of Pakistan. There is a trend to overprescribe in many cases. There is a need to develop guidelines and start continuing development programs to improve knowledge amongst young doctors, and to prevent antibiotic resistance.

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