



KNOWLEDGE, ATTITUDE AND PRACTICES REGARDING THE USE OF ANTIBIOTICS AMONG THE RESIDENT DOCTORS IN MGM INSTITUTE OF HEALTH SCIENCES, NAVI MUMBAI

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ABSTRACT

Antibiotics have transformed modern medicine by effectively combating bacterial infections, yet their excessive use has fostered the rise of antibiotic-resistant pathogens—a critical global health concern. In this context, resident doctors, as future healthcare leaders, play a crucial role. Understanding their knowledge, attitudes, and practices (KAP) regarding antibiotic use is essential to guiding effective interventions against resistance. This study delves into the KAP of resident doctors, exploring their pivotal influence on patient care and the prudent use of antibiotics amidst growing resistance challenges.

KEYWORDS : Antibiotics, Resistance, Bacterial infections, Prescription

INTRODUCTION

Antibiotics are the cornerstone of modern medicine, revolutionizing patient care by effectively treating bacterial infections. However, their overuse and misuse have fueled the emergence of antibiotic-resistant pathogens, posing a grave threat to global public health. In this battle against antibiotic resistance, resident doctors, as the future custodians of healthcare, occupy a pivotal position. Their knowledge, attitudes, and practices (KAP) regarding antibiotic use can shape the trajectory of this critical issue, making them a vital focus for in-depth study.[1]

This research embarks on a journey to comprehensively investigate the KAP of resident doctors concerning antibiotics and antibiotic resistance. Resident doctors represent a dynamic and diverse group of medical professionals who are actively engaged in patient care and the prescription of antibiotics. Their insights into the intricate realm of antibiotic usage, their awareness of resistance patterns, and their adherence to guidelines are instrumental in influencing the outcomes of patient treatment and the overall effectiveness of antibiotics.

resistance but also places patients at risk of adverse effects, escalates healthcare costs, and challenges the fundamental principles of medical practice. Resident doctors, at various stages of their medical training and clinical experience, are regularly confronted with situations that demand antibiotic prescription decisions. This study aims to explore how their KAP align with best practices and guidelines in antibiotic use.[2]

MATERIALS AND METHODS :

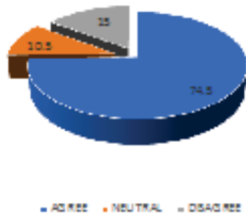
An Observational cross-sectional study involving 200 post-graduate resident doctors in MGM Institute of Health Sciences, Navi Mumbai, India was carried out after ethics committee approval for the study. Those residents willing to participate in the study got themselves enrolled. Since it's a KAP Study restructured and pretested Questionnaire was used to assess the participants and their knowledge regarding the use of antibiotics and antibiotic resistance that can occur due to overzealous use of antibiotics. Google forms was used to form the Questionnaire and to collect the data from the residents

RESULTS

The responses recorded by the participants were as follows :

S No.	Question	Disagree	Neutral	Agree
1.	Antibiotics are useful for Bacterial Infections	15(7.5%)	0	185(92.5%)
2.	Antibiotics are useful for Viral infections	160(80%)	29(14.5%)	11(5.50%)
3.	Antibiotic use speeds up recovery from flu/cold	134(67%)	55(27.5%)	11(5.50%)
4.	Self-medication is one of the main reasons for resistance	9(4.5%)	37(18.5%)	154(77%)
5.	Empirical antibiotic therapy contributes to resistance	42(21%)	84(42%)	74(37%)
6.	Shorter duration antibiotic course contributes to resistance	34(17%)	46(23%)	120(60%)
7.	Some Bacterial infections are resistant to all antibiotics	34(17%)	36(18%)	130(65%)
8.	Have enough knowledge about dosage of commonly prescribed antibiotics	46(23%)	45(22.5%)	109(54.5%)
9.	Understand the importance of full antibiotic course	5(2.5%)	8(4%)	187(93.5%)
10.	Skipping one or two doses doesn't contribute to resistance	100(50%)	76(38%)	24(12%)
11.	Adverse effects caused by antibiotics are reduced on taking multiple antibiotics at a time	151(75.5%)	34(17%)	15(7.5%)
12.	Over the counter antibiotic selling should be prohibited	30(15%)	21(10.5%)	149(74.5%)
13.	Antibiotics can be prescribed on patient's request	191(95.5%)	9(4.5%)	0
14.	Antibiotic resistance is a significant public health concern?	166(83%)	29(24.5%)	5(2.5%)
15.	Pressurize by patients to prescribe antibiotics sometimes	76(38%)	59(29.5%)	65(32.5%)
16.	Educating patients about appropriate use of antibiotics should be encouraged	0	21(10.5%)	179(89.5%)
17.	After learning about antibiotic resistance, I am taking greater precaution while prescribing antibiotics	51(25.5%)	34(17%)	115(57.5%)
18.	I wait for culture reports to start antibiotics	84(42%)	76(38%)	40(20%)
19.	Aware about antibiotic stewardship	47(23.5%)	51(25.5%)	102(51%)

Over the counter antibiotic selling should be stopped



DISCUSSION

A significant majority (92.5%) of respondents agree that antibiotics are useful for treating bacterial infections, with only a small minority (7.5%) disagreeing. Antibiotics are effective solely against bacterial infections and do not work on viral illnesses. Common viral infections, such as colds, bronchitis, and the flu, cannot be treated with antibiotics. Overusing or misusing antibiotics can lead to side effects and, over time, diminish their effectiveness. Most respondents (80%) correctly disagree that antibiotics are useful for viral infections, although a notable percentage (14.5%) are neutral or unsure.[3]

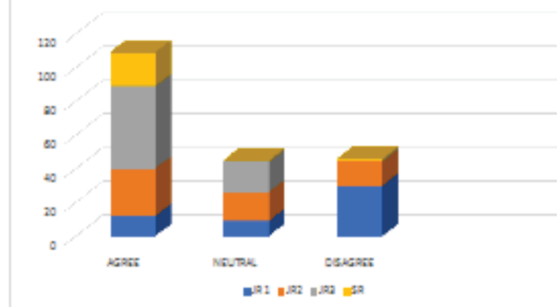
A majority (67%) incorrectly believe that antibiotics speed up recovery from flu/cold, highlighting a common misconception. The majority (77%) agree that self-medication contributes significantly to antibiotic resistance, though some (18.5%) are neutral. There is mixed awareness about empirical antibiotic therapy contributing to resistance, with a significant portion (42%) neutral or unsure. A majority (60%) correctly agree that shorter antibiotic courses contribute to resistance, indicating awareness of appropriate antibiotic use. A majority (65%) acknowledge that some bacterial infections are resistant to all antibiotics, with a notable portion (18%) being unsure or neutral. Antibiotic resistance happens when bacteria become immune to the effects of antibiotics. When antibiotics are used, they kill the bacteria that are sensitive to them, but those that are naturally resistant or have developed resistance survive and grow. Both overusing and misusing antibiotics—such as choosing the wrong ones, not taking the correct doses, or not following treatment guidelines—can increase resistance.

About half (54.5%) feel they have adequate knowledge about antibiotic dosages, but a significant minority (45.5%) are neutral or feel they lack sufficient knowledge. An overwhelming majority (93.5%) understand the importance of completing a full antibiotic course, with very few (2.5%) disagreeing. Half (50%) incorrectly believe that skipping one or two doses does not contribute to resistance, indicating a gap in understanding. A large majority (75.5%) incorrectly believe that adverse effects are reduced by taking multiple antibiotics simultaneously, reflecting a misconception. Most respondents (74.5%) agree that over-the-counter antibiotic sales should be prohibited, which is a measure to curb misuse. Almost all (95.5%) respondents agree that antibiotics should not be prescribed solely on patient request, indicating awareness of prescription guidelines. A large majority (83%) recognize antibiotic resistance as a significant public health concern, though a notable minority (14.5%) are neutral or unsure. A significant portion (38%) of respondents report being pressured by patients to prescribe antibiotics, highlighting a challenge in clinical practice. As per Jabbarin H. (2023) knowledge about antibiotic resistance asserts that the senior specialist/consultant is more knowledgeable. It was also found that there is no statistically significant difference in knowledge on antibiotic resistance related to the variable kind of hospitals as the p-value is 0.56 that is higher than 0.05.

Overall, the data underscores both strengths and areas for improvement in knowledge, attitudes, and practices related to

antibiotic use and resistance management among healthcare professionals. Addressing these findings through targeted education and policy enforcement could enhance antibiotic stewardship and combat the growing threat of resistance effectively.

Knowledge about appropriate dosing of prescribed antibiotics



CONCLUSIONS

Overall, the data highlights both strengths and areas for improvement in knowledge, attitudes, and practices related to antibiotic use and resistance among resident doctors. There is generally good awareness about certain aspects (e.g., completing full courses, risks of self-medication), but also notable gaps (e.g., misconceptions about antibiotic efficacy for viral infections, incorrect beliefs about antibiotic use practices). Addressing these gaps through targeted education and adherence to guidelines could enhance antibiotic stewardship and mitigate resistance

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