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RESEARCH ARTICLE
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TO INVESTIGATE THE BEHAVIOURS OF SELF-MEDICATION AND AWARENESS ABOUT ANTIBIOTICS IN KARACHI, PAKISTAN

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Abstract
The issue of self-medication is a significant problem for health authorities worldwide. The objective of this study was to determine the incidence of self-medication with pharmaceuticals medication and identify the factors related with it among the population of Karachi, Pakistan. This study also attempted to evaluate the attitude of respondents who had engaged in self-medication. This study conducted a survey among a group of individuals (aged 20 and above) living in Karachi, Pakistan, to assess their understanding with antibiotics and practice of self-medication. The study did not include health care providers. A total of 300 questionnaires were filled out. Among the individuals who responded, 86.33% were between the age range of 20 to 49 years, while a total of 37.33% had successfully finished graduate studies. Regarding their understanding of antibiotics, 42% believed that antibiotics should be used to treat common colds, while 47% were used antibiotics without prescription. There is a strong correlation between self-medication and a higher educational level. Individuals with little understanding of antibiotics discontinued their antibiotic treatment at an unsuitable moment prior to the completion of antibiotic duration. To prevent self-medication with antibiotics, it is necessary to implement awareness campaigns and enforce rules regarding the dispensing of medication.

Keywords: Self medication, Antibiotic knowledge, and Self medication practice.

Introduction

Self-medication refers to the practice of using medications to treat disorders or symptoms that individuals have diagnosed themselves, or the occasional or ongoing use of a prescribed substance for chronic or recurring diseases or symptoms.[1] Consumers typically choose it for symptoms they find bothersome, although not significant enough to warrant a medical visit. It encompasses the utilisation of medicinal plants, the preservation and reuse of prescribed medications, and the direct acquisition of prescription-only pharmaceuticals without medical consultation. Self-medication is the primary method of treating ailments in developing nations.[2,3] An important limitation of self-treatment is the absence of clinical assessment of patients, which may lead to incorrect diagnosis and delays in receiving suitable treatment.[4] Engaging in inappropriate self-medication within the

community can result in the development of drug-induced illnesses and unnecessary public spending.[5]

Internationally, research has examined the general understanding of the public regarding the utilisation and prevalence of self-medication with antibiotics.[6] Additionally, studies have investigated the factors linked to the inappropriate use of antibiotics,[7] the prescribing of antibiotics by non-infectious disease doctors,[8] the dispensing of antibiotics by pharmacies,[9] and the knowledge, attitude, and behaviour of the population towards antibiotic use.[10]

The main aims of this study were to assess the understanding and self-medication habits and attitude toward the self practice of antibiotics in Karachi, Pakistan by conducting a random survey of individuals without any medical expertise.

Material and Method

The study sample comprised population from Karachi city. A multistage stratified clustered sampling method was employed to choose a sample of 300 adult individuals. This entailed the arbitrary selection of individual visited in different hospitals (private and public hospitals) and public areas. An adult individual was contacted and provided with an explanation regarding the objectives of the research. The participants provided oral agreement to take part in the investigation. The individuals were given self-administered, structured questionnaires that had been pretested and delivered by undergraduate medical and pharmacy students who had received training. The surveys were filled out in the presence of the research students as a precaution in case any participants had any questions or needed assistance. A database was constructed in MS Excel, and the requisite statistical analysis was performed.

Results

Among a total of 300 individuals, engaged in the practice of self-medication within a period of 3 months, (19.32%) of the participants were females and (25.96%) of the participant were male. The study identified a correlation between self-medication and characteristics such as sex, age, education and socioeconomic category [Table: 1] Individual with higher education were more likely to practice self medication (21.42%). Participants primarily practice self-medication for treating fever, headache, and subsequently, spasmodic stomach symptoms [Table: 2]. Mostly individual used self medication for fever (21.62%), headache (37.83%) and cold and cough (14.86%).

Table: 1. Sociodemographic factors influencing the utilisation of self-medication

Sociodemographic Characters		**Use of Self Medication**	
		Yes	**No**
Sex	Male	47 (25.96%)	134 (74.04%)
	Female	23 (19.32%)	96 (80.68%)
Age	20 – 29	13 (18.57%)	57 (81.43%)
	30 – 39	17 (16.03%)	89 (83.97%)
	40 – 49	8 (9.63%)	75 (90.37%)
	50 above	4 (9.75%)	37 (90.25%)
Education	Illiterate	3 (15%)	17 (85%)
	Secondary	12 (18.75%)	52 (81.25%)
	Higher Secondary	13 (12.5%)	91 (87.5%)
	Graduate	24 (21.42%)	88 (78.58%)
Socioeconomic Category	Lower Class	26 (20.47%)	101 (79.53%)
	Middle Class	17 (15.04%)	96 (84.96%)
	Upper Class	8 (13.33%)	52 (86.67%)

Table: 2. Self-medication practice for treating minor symptoms

Symptoms	Frequency
Fever	16 (21.62%)
Headache	28 (37.83)
Joint paint	3 (4.05%)
Constipation	6 (8.10%)
Abdominal pain	2 (2.70)
Diarrhoea	3 (4.05%)
Allergy	5 (6.75%)
Cold and cough	11 (14.86%)

Furthermore, out of the total number of participants, 96 individuals, accounting for 32% of the sample, believed that antibiotics should be used to treat a sore throat. On the other hand, participants, constituting 42%, 126 individual believed that antibiotics should be used to treat the common cold. Furthermore, 54 individuals, accounting for 18% of the participants, believed that antibiotics should be used to treat the fever. Remaining 24 individual, accounting for 8% of the participants, believed that antibiotics should be used to treat the other infection (Figure: 1). 159 individuals, accounting for the 53% participant using antibiotics on receiving a medical prescription after consulting with a physician. Additionally, 141 individuals, making up 47% of the participants, believed that antibiotics were necessary for their illness even without seeking medical advice (Figure: 2).

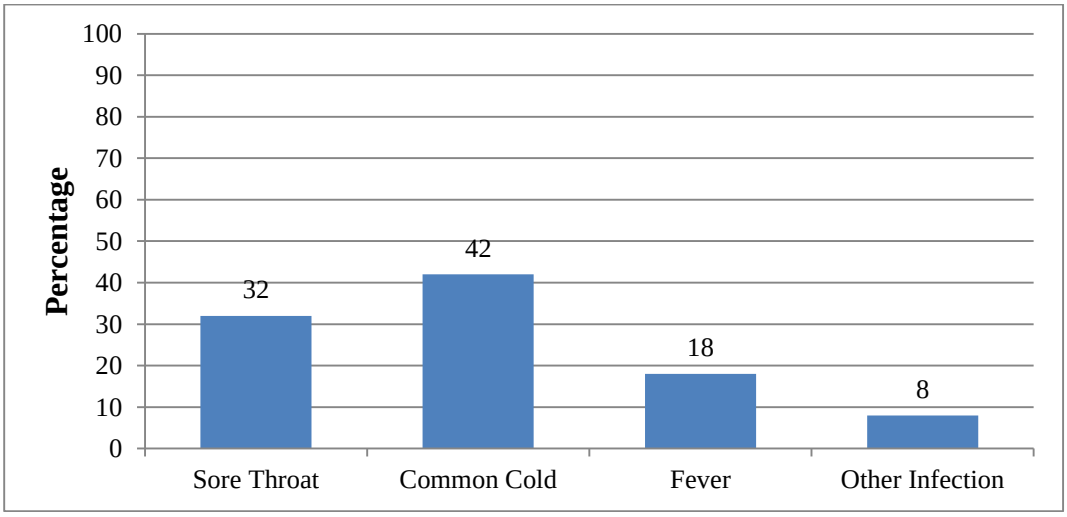

Figure: 1. Knowledge about the use of antibiotic in different condition.

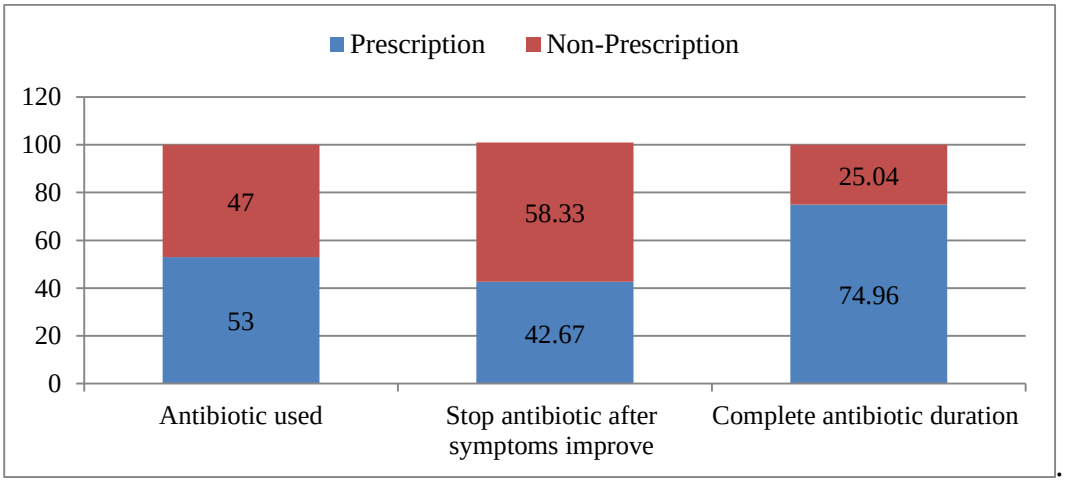

Figure: 2. Antibiotic practicing and the declared time of stopping.

Discussion

As per the World Health Organisation (WHO), many measures can be taken to mitigate antibiotic resistance. These include directing efforts towards the general public, healthcare providers, healthcare systems, governments, pharmaceutical industries.[11] Research findings indicate that approximately 50% of the participants engaged in self-medication with antibiotics. The majority of individuals who utilized them for self-administration in cases of sore throat, common cold, and fever. This can be attributed to various things.

The study findings indicate an association between the misuses of antibiotics to a higher level of education. Another study also conducted in Karachi city indicated the high level of self medication among the medical background students also showing high level of education and knowledge.[12] Income level also influences the self-medication statistically demonstrated that lower income participant more likely to use antibiotic without consult to the medical professionals. Our research indicates that antibiotics were provided without a prescription upon request, despite the significant physician-to-patient ratio.

Furthermore, there is a mistaken belief that antibiotics are necessary for symptoms or indications such as cough, runny nose, sore throat, and fever, despite the fact that these symptoms may resolve on their own. Upon examining the optimal timing to discontinue antibiotics, it was observed that those who obtained antibiotics without a prescription were more inclined to cease treatment after their symptoms improved, as opposed to those who had a prescription. Individuals who had a prescription successfully finished their treatment, in contrast to those who did not have a prescription. This discovery strengthens the notion that obtaining a prescription and undergoing a medical assessment are crucial in the management of individuals with infections.

Conclusion

The practice of self-administering antibiotics is a significant issue in Pakistan. This has the potential to exacerbate the issue of antibiotic resistance, a global phenomenon that has been recognised by the World Health Organisation. The study findings indicate that a lack of people's understanding of antibiotics is linked to the tendency to seek antibiotics without consulting a medical professional. It is advisable to carry out awareness programmes, spearheaded by non-profit governmental organisations (NGOs) and the Ministry of Health, to enhance public understanding of the dangers associated with the misuse of antibiotics without a prescription.

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