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Excessive and Misuse of Antibiotics and their Impact on Humans

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Abstract

This current study aims to find out the reasons for using antibiotics, and whether excessive use of antibiotics has many harmful effects on humans. The questionnaire was conducted and conducted via Google Drive, and then distributed via the social media network. On people, due to the difficulty of personally communicating with the targeted people (residents of the Holy City of Mecca) between the ages of 25-55 years, men and women. This was the best way to obtain and analyze data, as 500 questionnaires were distributed and only 480 questionnaires were obtained.

Keywords*: excessive, misuse of antibiotics, impact, on humans.*

Introduction

Antibiotic misuse (sometimes called antibiotic misuse or antibiotic overuse) points to the misuse or overuse of antibiotics, with potentially serious health results. It is a contributing agent to the development of antibiotic resistance, including the creation of multidrug-resistant bacteria. Relatively harmless bacteria (such as staphylococci, enterococci, and Acinetobacter) can develop resistance to many antibiotics and cause life-threatening infections in humans (1). Antibiotics have been around since 1928 when Alexander Fleming found out penicillin. In the 1980s, antibiotics considered medically important for the curing of animals received approval under veterinary supervision. In 1996, the National Antimicrobial Resistance Monitoring System (NARMS) was founded (2). Starting in 2010, annual reports began to address antimicrobial medications in food. In 2012, it demands public input on how to raise and report data on issues related to antimicrobial use in food-producing animals. As a result, the FDA revised its sampling structure within the National Antimicrobial Resistance Monitoring System with the goal of obtaining more representative livestock data for the key organisms under surveillance (2). The National Antimicrobial Resistance Monitoring System partners at CDC and USDA have published more than 150 peer-reviewed

research articles examining the nature and magnitude of antimicrobial resistance risks associated with the use of antibiotics in food-producing animals. In 2014, the US Food and Drug Administration began working with the US Department of Agriculture (USDA) and the Centers for Disease Control and Prevention (CDC) to explore additional mechanisms for obtaining data representative of antibiotic use in food-producing animals. In 2015, the US Food and Drug Administration issued the final rule for the Veterinary Feed Directive (VFD), requiring veterinarians to allow the use of in-feed antimicrobials for the animals they serve. Examples of misuse of antibiotics, the most common examples of misuse or overuse of antibiotics are: Respiratory diseases in children should not be treated with antibiotics unless a bacterial infection is present (3). When children who suffer from tympanostomy develop an ear infection, they must take antibiotics in the form of viruses that attack them directly in the body and cause infection, and they should stay away from antibiotics that are taken orally. Side effects (4). Otitis externa should be treated with antibiotics in the form of drops and not orally (5). Sinusitis should not be treated with antibiotics; Because it is often caused by viruses, even if it is caused by bacteria, antibiotics should not be used, except in exceptional circumstances. Sinusitis often heals without treatment (6). Conjunctivitis virus should not be treated with antibiotics. In bacterial conjunctivitis only, it should be used (7). Older adults often have bacteria in their urine, identified by routine urine testing. A person who has symptoms of a urinary tract infection should not use antibiotics without consulting a doctor (8). Eczema most of the time should not be treated with antibiotics. Dry skin and its symptoms can be treated with moisturizers (9). The use of antibiotics to treat surgical wounds does not reduce the infection rate compared to ointments at all (10). Inappropriate use Antibiotics have no effect on viral infections such as the common cold, and they also have no effect on sore throat infections that are usually viral and self-treating (20). Most cases of bronchitis (90-95%) are also viral. After several weeks of using antibiotics to treat bronchitis, their use becomes unnecessary and may put the patient through suffering due to their adverse effects (21).

Material and Methods:

The study started in (the holy city of Mecca in Saudi Arabia), began writing the research and then recording the questionnaire in January 2022, and the study ended with data collection in June 2022. The researcher used the descriptive analytical approach that uses a quantitative or qualitative description of the social phenomenon (Excessive and misuse of antibiotics and their impact on humans). This kind of study is characterized by analysis, reason, objectivity, and reality, as it is concerned with individuals and societies, as it studies the variables and their effects on the health of the individual, society, and consumer, the spread of diseases and their relationship to demographic variables such as age, gender, nationality, and marital status. Status, occupation (22), And use the Excel 2010 Office suite histogram to arrange the results using: Frequency tables Percentages (23). A questionnaire is a remarkable and helpful tool for collecting a huge amount of data, however, researchers were not able to personally interview participants on the online survey, due to social distancing regulations at the time to prevent infection between participants and researchers and vice versa (not coronavirus participation completely disappearing from society). He only answered the questionnaire electronically, because the questionnaire consisted of ten questions, all of which were closed. The online approach has also been used to generate valid samples in similar studies in Saudi Arabia and elsewhere (24)

Results and discussion:

The percentage of approval to participate in the research questionnaire was 100%, and the percentage of participants' ages was as follows: 23.8% from 25-34 years old, 71.4% from 35-44 years old, and 4.8% from 45-55 years old. As for the gender of the participants, it was as follows: the percentage of males was 76.2%,

and the percentage of females was 23.8%. As for their nationality, most of them were 100% Saudi men and women, and as for their professions, they were as follows: 4.7% civil servant, 90.5% government employee, 4.7% private sector employee, 0% freelancer. As for the educational aspect of the participants, it was as follows: holders of primary certificates 0%, intermediate 0%, secondary schools 0%, university 95.2%, masters 0%, doctorates 0%. The fifth question: When children who have tympanostomy tubes become infected in the ear, should they take antibiotics in the form of drops and put them directly in the ear to prevent the infection? Yes 66.7% and no 33.3%. The sixth question is about: External ear infections. Should they be treated with antibiotics in the form of drops and not orally? Yes 61.9% and no 38.1%. The seventh question: Sinusitis, which should be treated with antibiotics, because it is mostly caused by viruses? Yes 28.6% and no 71.4%. The eighth question is about: Conjunctivitis virus, which should not be treated with antibiotics? Yes 76.2% and no 23.8%. The ninth question is about: Older people often have bacteria in their urine, as determined by routine urine? Yes 81% and no 19%. The tenth question: A person who has symptoms of a urinary system infection should not use antibiotics except on the advice of a doctor? The eleventh question: Eczema is not treated with antibiotics. Dry, dry skin is treated with moisturizers? Question 12: Antibiotics have no effect on viral infections? Question thirteen: Antibiotics are required to treat bacterial infections, but their misuse has contributed to increasing bacterial resistance? The last question: Does the widespread use of fluoroclonylones lead to reducing the effectiveness of antibiotics, and leaves negative effects on combating some types of dangerous bacteria? The same answers were yes 100% and no 0%. (figure. N0.1)

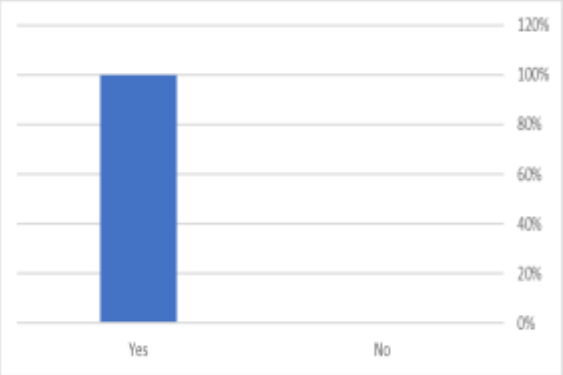

Figure.No.1: Opinions and attitudes of participants regarding the misuse or overuse of antibiotics, which leads to the development of bacterial resistance to antibiotics.

Conclusion:

Antibiotics have many benefits for humans and protect them from diseases, but excessive or misuse of them may first lead to bacteria becoming resistant to the antibiotic due to frequent use, and misuse may lead to not benefiting from the antibiotic in its correct place and location.

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