

развитию диарейного или респираторного синдрома. Поэтому при использовании подкормок исключительное значение приобретает точность подсчета минерального состава рациона.

В критические периоды, когда происходит смена свиного комбикорма у поросят на откорме, необходимы не только постоянные клинические осмотры животных, но и периодические исследования крови, которые позволят оценить состояние обмена веществ, выявить соответствующую патологию, разработать предложения по корректировке рациона и использованию лечебных премиксов.

Литература. 1. Hemsworth P.H. The effects of fear of humans and pre-slaughter handling on the meat quality of pigs /P.H. Hemsworth, J.L. Barnett, C. Hofmeyr, G.J. Coleman, S. Dowling, J. Boyce. Austral. J. Agr. Res. – 2002, vol. 53, № 4 – 493-501 p. 2. Roselli V. Alternatives to in-feed antibiotics in pigs: Evaluation of probiotics, zinc or organic acids as protective agents for the intestinal mucosa /V. Roselli, F. Finamore, M.S. Britti, P. Bose, I. Oswald, E. Mengheri. – Anim. 2005. vol., 54, № 3 – 203-218 p. 3. Лабораторные исследования в ветеринарии: Справочник /Под ред. Антонова Б.И. – М., Агропромиздат, 1991, с. 287. 4. Методы ветеринарной клинической лабораторной диагностики: Справочник /Под ред. Кондрахина И.П. – М., Колос, 2004, с.520. 5. Рецкий М.И., Шахов А.Г., Шушлебин В.И. и др., – «Методические рекомендации по диагностике, терапии и профилактике нарушений обмена веществ у продуктивных животных» – Воронеж, 2005, стр. 44-94.

UDC 619:616.98-085



Gupta P.P.



AWARENESS ON RATIONAL USE OF ANTIBIOTICS AND ITS RESISTANCE AMONG THE PATIENTS ATTENDING GP OPD AT BPKIHS IN EASTERN NEPAL

*Gupta P.P., *Bhandari R., *Bhandari R., **Gupta S., ***Manandhar S.

*Department of General Practice and Emergency Medicine,

**Department of Basic and Clinical Physiology,

***Department of Otolaryngology, B.P. Koirala Institute of Health Sciences, Ghopla, Dharan, Nepal

Everybody know, that antibiotics prescribed for many serious illnesses such as bacterial pneumonia, bacterial meningitis, septicemia, and even strep throat. These illnesses can be life threatening or can lead to serious complications. Cure these diseases without the use of antibiotics is impossible. However, in recent years,

*information about antibiotic resistance - that is, the resistance of a number of microorganisms to antibiotic treatment - has become increasingly common. This fact - this is a serious problem in the treatment of a number of diseases of infectious pathology. The work aims to create an awareness on antibiotics and its resistance in patients. The main objective of this work is to study the patient knowledge through knowledge assessment questionnaire, to promote the rational use of antibiotics and to educate the patients using antibiotics. **Keywords:** rational use, antibiotics, resistance, control, prevention, mutation, transformation, plasmid transfer.*

*Всем известно, что антибиотики назначаются при многих серьезных заболеваниях, таких как бактериальная пневмония, бактериальный менингит, сепсис и даже стрептококковое горло. Эти болезни могут быть опасными для жизни или могут привести к серьезным осложнениям. Вылечить данные заболевания без применения антибиотиков невозможно. Однако, в последние годы все чаще появляется информация об антибиотикорезистентности – то есть устойчивости ряда микроорганизмов к лечению антибиотиками. И данный факт представляет серьезную проблему при лечении ряда заболеваний инфекционной патологии. Работа направлена на повышение осведомленности о антибиотиках и его резистентности у пациентов. Основная цель этой работы - изучить знания пациентов с помощью вопросника оценки знаний, содействовать рациональному использованию антибиотиков и обучать пациентов с использованием антибиотиков. **Ключевые слова:** рациональное использование антибиотиков, резистентность, контроль, профилактика, мутация, трансформация, трансфер плазмид.*

Introduction. Antibiotics are drugs that used to kill or inhibit the growth of bacteria. The term rational drug use in this overview limited to the medical therapeutic view accepted at the WHO conference at the Nairobi: rational use of drugs requires that patients receive medications appropriate to their clinical needs, in doses that meet their own requirements, for an adequate period of time, and at the lowest cost to them and their community [1]. The ability of bacteria to repel or withstand the effects of antibiotics is Antibiotics resistance. One of the protective mechanism of microorganism is resistance for surviving in the environment. Though antibiotics do not technically cause resistance, they allow it to happen by creating a situation where a preexisting variant bacterium can flourish and grow. Antibiotic resistance occurs through any of the following mechanisms: Spontaneous deoxyribonucleic acid (DNA) mutation, transformation, and plasmid transfer [2].

The Centers for Disease Control and Prevention, the Food and Drug Administration, and the WHO all state that antibiotic resistance is one of the world's most pressing health problems. Diseases such as tuberculosis, gonorrhea, bacterial pneumonia, and enterococcal, staphylococcal, and streptococcal infections are now more difficult to treat than they were decade's ago [3]. Antibiotic resistance is an increasingly difficult problem in hospitals because they care for critically ill patients who are more susceptible to infections than the general public and therefore they require more antibiotics. The heavy use of antibiotics in these patients causes more gene mutations in bacteria that bring about more drug resistance. The resulting stronger drug resistant bacteria continue to prey on hospital patients [4].

More than 70% of the bacteria that cause hospital-acquired infections are resistant to at least one of the drugs most commonly used to treat them. Some bacteria are resistant to all approved antibiotics and must be treated with experimental and potentially toxic drugs. Persons infected with drug-resistant

bacteria are more likely to have longer hospital stays and require treatment with second or third choice drugs that may be less effective, more toxic, and more expensive [5].

Antibiotics resistance is one of the major causes for increasing health care costs and increased the severity of disease. Today we often come across the words like methicillin resistant staphylococcus aureus and multi drug resistant tuberculosis.

This study aimed to assess and create patient awareness on antibiotics usage. A knowledge assessment questionnaire (KAQ)-based survey was carried out; assesses patients' knowledge; and educates and promotes the rational use of antibiotics.

Materials and methods of the research. This study done in Outpatient Department of General Practice and Emergency Medicine at B. P. Koirala Institute of Health Sciences, Nepal from January 2015 to June 2015. Data were collected from patients who attend the outpatient department during the study period by a semi structured questionnaire. All new patients or follow up patients who attended the outpatient department and antibiotics was prescribed were included in the study. The day of collection of data randomly selected as 2nd day, 4th day and 5th day of the week (3 days in a week). Pregnant patients, patient with multiple diseases and patients with comorbid conditions excluded in this study. All data were entered in Microsoft excel sheet and results were calculated and shown in graphs and tables. Ethical clearance taken from Institutional review committee of BPKIHS.

Results of the research. Based on exclusion and inclusion criteria total 1876 patients were included in this study, only 1524 patients agreed to answer the KAQ.

The demographic status in showed in table 1.

Table 2 showing us the answers provided based on questions (%).

Table 3 showing us most common side effects reported after taking antibiotics.

Table 1 - Demographic Status of Study population

| Demographic status | Number of patients (%) N=1524 |
|------------------------------|----------------------------------|
| Sex wise distribution | |
| Male | 960 (63 %) |
| Female | 564 (37%) |
| Age wise distribution | |
| >15 years | 152 (10%) |
| 16-24 years | 320 (21%) |
| 25-34 years | 503 (33%) |
| 35-44 years | 244 (16%) |
| >45 years | 305 (20%) |
| Qualification | |
| Illiterate | 427 (28%) |
| Primary school | 396 (26%) |
| Higher Secondary School | 427 (28%) |
| Bachelors/ Master's degree | 274 (18%) |
| Occupation | |
| Agriculture | 214 (14%) |
| Businessman | 335 (22%) |
| Self Employed | 183 (12%) |
| Government services | 274 (18%) |
| Private services | 274 (18%) |
| House wife | 244 (16%) |

Table 2 - Answers provided based on questions (%)

| Questions | n=1524 |
|--|--------|
| Knows about antibiotics | 67% |
| Have taken antibiotics previously | 58% |
| Completed antibiotic course | 55% |
| Stop antibiotics once felt better | 70% |
| Knows the use of drug | 37% |
| Feels oral route easier | 72% |
| Cost is high | 68% |
| Having side effects | 52% |
| Allergic reaction while using antibiotics | 42% |
| Knows that antibiotics are contraindication in pregnancy | 22% |

When rationality was checked for overall appropriateness of antibiotics prescribed it was found to be 68.7%. It founded that, 66% antibiotics were appropriate especially with reference to indication and 58.6% with duration. Similarly 59% with dose, 56% with frequency founded to be appropriate.

Conclusion. Rational drug use is well recognized as an important part of health policy. Efforts to promote rational drug use have been mainly targeted at the formal health care services. Irrational drug use is a major public health problem worldwide, with far reaching economic consequences.

In our study male patient dominated and the age of the patient range between 24-35 years were found to be high. Most of the patients were having educational qualification either to primary school or to higher secondary school as it was also shown in study done by Rajalingam et al in 2016 that male patients were predominant and the age of the patients ranged between 51-65 years were found to be high.

Table 3 - Most common side effects reported after taking antibiotics

| Side Effects | Number of Patients |
|--------------------------|--------------------|
| Diarrhea | 143 |
| Abdominal Pain | 222 |
| Weakness | 143 |
| Nausea/Vomiting | 111 |
| Headache | 66 |
| Rashes | 62 |
| Difficulty in swallowing | 45 |
| No complaints | 732 |

Based on the questionnaire 37% of patients didn't know what antibiotic is and why they were prescribed. Whereas 70% of patients stopped antibiotics when they feel they being improved without completing the course of antibiotics. The reason behind this was not knowing about the antibiotics. Only 55% of patients completed the course of antibiotics. About 68% of patients believes that the cost of antibiotics were higher. This was similar with the study done by Maheshwori et al in 2015 which showed 61% of patients know about antibiotic where as 57% compile the antibiotic course, 70% stop the medication when felt better, 62% of the people say the cost of the medicine is high.

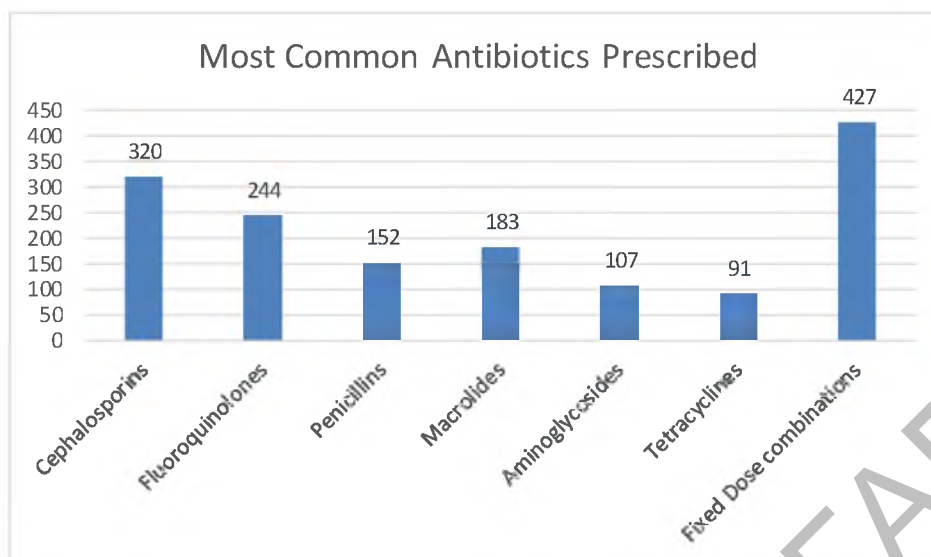


Figure 1 - Most common antibiotics groups prescribed

As stated by Maheshwori et al 61% have side effects of the drug they taken in his study , in our study we also have 52% patients who have side effects after consuming antibiotics and most frequent side effects reported was abdominal pain, diarrhea and weakness.

The results revealed that the most commonly prescribed antibiotics were fixed dose combinations (427), cephalosporin (320), followed by quinolones (244). In fixed dose combinations, the most commonly prescribed antibiotics were Amoxicillin+Clavulanic acid followed Cefixime and ofloxacin.

The consumption of antibiotics observed to be high and cephalosporin were found to be the most commonly used antibiotics. Despite of drugs regulations, dispensing of antibiotics is very high in community and people often stop it without completing the doses hence health education programs should be taken to the patients regarding antibiotics. Suitable and sustainable interventions should be implemented to promote the rational use of antibiotics that will help in decreasing the incidence of antibiotics resistance.

References. 1. Management Sciences of Health. *Managing drug supply*. West Hartford, Connecticut, USA: Kumarian press.1997. 2. Kotwani A, Holloway K. Trends in antibiotic use among outpatients in New Delhi, India. *BMC Infect Dis* 2011; 11:99. 3. Sansgiry SS, Nadkarni A, Doan T. Misuse of over-the-counter medications among community-dwelling older adults and associated adverse drug events. *J Pharam Health Serv Res* 2010; 1:175-9. 4. Schirm E, Berg PV, Gebben H, Sauer P, Berg LD. Drug use of children in the community assessed through pharmacy dispensing data. *Br J Clin Pharm* 2000; 50(5):473-8. 5. Khan AK, Banu G, Reshma KK. Antibiotic resistance and usage-a survey on the knowledge, attitude, perceptions and practices among the medical students of a Southern Indian teaching hospital. *J Clin Diagn Res* 2013; 7(8):1613-6. 6. Rajalingam B, Susan Alex A, Godwin A, Cherian C, Cyriac C. Assessment of rational use of antibiotics in a private tertiary care teaching hospital. *Indian journal of pharmacy* 2016;9(1):14-18. 7. Maheshwori P, Praveen D, Ravichandiran V. A study on patient's awareness on rational use of antibiotics and its resistance. *Asian J Pharm Clin Res* 2015;8(3):204-206. 8. Khan AK, Banu G, Reshma KK. Antibiotic resistance and usage-a survey on the knowledge, attitude, perceptions and practices among the medical students of a Southern Indian teaching hospital. *J Clin Diagn Res* 2013; 7(8):1613-6. 9. Jose J, Jimmy B, Alsabahi AG, Al Sabei GA. A study assessing public knowledge, belief and behavior of antibiotic use in

an Omani population. *Oman Med J* 2013; 28(5):324-30. 10. Crumpton LP, McClanahan SB. Antibiotic resistance and antibiotics in endodontic. *Clinical Update Naval Postgraduate Dental School*. 11. Slavkin HC. Benefit-to-risk ratio: The challenge of antibiotic drug resistance. *J Am Dent Assoc* 1997; 128(10):1447-51.

UDK 619:32.78



**Prof. Kazimieras
Lukauskas**

THE ROLE OF VETERINARY SERVICE FOR THE GLOBAL ENSURING OF THE SAFETY OF RAW MATERIALS AND FOOD PRODUCTS

Prof. Kazimieras Lukauskas

Head RR OIE for Europe in Moscow, Moscow, Russia

*The data on the work of the well-known international organization - the OIE - the International Epizootic Bureau are given. The structure of the OIE is shown, the main areas of work, programs for which the organization works and its member countries. It is shown, with what basic questions and problems the OIE works, what are the functions of this organization.***Keywords:** OIE, participating countries, functions, programs, line of work

*Приведены данные по работе известной международной организации – МЭБ – Международное эпизоотическое бюро. Показана структура МЭБ, основные направления работы, программы, по которым работает данная организация и входящие в нее страны. Показано, с какими основными вопросами и проблемами работает МЭБ, каковы функции данной организации.***Ключевые слова:** Международное эпизоотическое бюро, страны-участницы, функции, программы, направление работы

The World Organisation for Animal Health (OIE) is the intergovernmental organisation responsible to improve animal health and welfare throughout the world. The OIE has 181 Member Countries as of 2017, permanent relationships with over 70 other international and regional organisations as well as regional and sub-regional offices in Africa; the Americas; Asia, the Far East and Oceania; Europe; and, the Middle East. The OIE is the international reference for the development, elaboration and promotion of intergovernmental science based standards for animal health and zoonoses. In partnership with its Member Countries, the OIE supports and assists national animal health systems improve their governance mechanisms by strengthening their capabilities and aligning them with the intergovernmental standards that they have adopted to meet the health challenges of tomorrow. These programmes also aim at preserving human health through fight against zoonoses, as well as at tackling food safety issues and improvement of livelihoods of poorest households, while taking into consideration the role and social functions of the various stakeholders concerned.

The animal health situation in the world often reflects the level of economic and social development of countries. In developed and emerging countries, good governance and advances in veterinary medicine and genetics coupled with