RATIONAL USE OF ANTIBIOTICS

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ABSTRACT

INTRODUCTION: Often when people suffer from high fever or viral infections, do not have time for microbiological testing and seek quick results, they start self-treatment. Experts warn that errors in the use of antibiotics threaten our health, suppress the natural response of the immune system and can have a negative effect on the complex organization of microorganisms that inhabit the human body. Errors by self-reduction of dosage and duration, as well as interruption of the treatment course suggest an improper use of antibiotics.

AIM: The aim of this paper is to study the knowledge of health care professionals from Alexandrovska University Hospital on the rational use of antibiotics – their advantages and disadvantages and the main risks of an increase of bacterial resistance.

MATERIALS AND METHODS: A survey involving health care professionals at Alexandrovska University Hospital was conducted. We used sociological methods of processing and analyzing the results of the questionnaires concerning the frequency of the used antibiotics, whether they were consistent with the results of the microbiological tests and if there was a consultation with a microbiologist about the effects of stopping the use of antibiotics.

CONCLUSIONS: Antibiotics should only be used as the only remaining option, not as the first possible drug treatment. Health care professionals who show a high level of knowledge and competence in relation to the right times to use antibiotics may be helpful to their relatives and patients with advice and recommendations regarding the reduction of the risk to their health, the use of probiotics together with the antibiotic therapy and the maintenance of a healthy way of life.

Keywords: *health care professionals, antibiotics, microbiological testing*

INTRODUCTION

Often when people suffer from high fever or viral infections, do not have time for microbiological testing and seek quick results, they start self-treatment.

Experts warn:

- ◇ Improper use of antibiotics endangers our health.

- ◇ Antibiotics suppress the natural response of the immune system and lead to its weakening.
- ◇ Antibiotics can have a negative effect on the complex organization of microorganisms that inhabit the human body.

Statistics show:

- ◇ 75 percent of people improperly use antibiotics, with the most common mistakes being:
- ◇ self dosage reduction;
- ◇ taking an antibiotic at a time different from the prescribed;
- ◇ interrupting a course of treatment before its completion.

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AIM

The aim of this paper is to study the knowledge of health care professionals from Alexandrovska University Hospital JSC on the rational use of antibiotics – their advantages and disadvantages as well as the main risks of an increase of bacterial resistance.

MATERIALS AND METHODS

A survey was conducted in November 2015 and included health care professionals in the Alexandrovska University Hospital JSC. We used sociological methods - direct individual anonymous questionnaire with 10 open-ended questions. Statistical methods for processing and analysis of the results of the survey were applied.

Scope of the study

- ✧ Active stand on the problem was expressed by 246 health care professionals from 22 clinics.
- ✧ We have collected the replies of 70% of all employed in healthcare-related job positions.
- ✧ Indicator of age:
 - below 10 years of service - 22%
 - over 10 years of service - 78%

Fig. 1. How often do you or your family use antibiotics?

Recommendations

- ✧ Antibiotics only work against bacterial infections and their use is accepted only in those cases.
- ✧ Antibacterial agents are taken only by prescription.

Fig. 2. Do you take antibiotics only after microbiological testing with a proven cause and antibiotic sensitivity testing?

Recommendations

- ✧ Microbiological testing provides the necessary information about whether antibiotic treatment is needed and what it has to be.
- ✧ Sampling before starting empiric therapy, tracking the results of the culture and targeted antibiotic therapy help reduce the unnecessary use of antibiotics.

Fig. 3. Do you consult a physician – a microbiology specialist when antibiotic treatment is needed?

Recommendations

- ✧ The main function of the Central Microbiology Laboratory is to provide the clinics and offices of Alexandrovska Hospital with microbiology materials from inpatients and outpatients.
- ✧ In support of the vision for future development highly qualified doctors and medical technicians work in the Central Microbiology Laboratory.
- ✧ It is always useful to consult a specialist microbiologist.

Fig. 4. Have you ever needed to change one antimicrobial with another during treatment?

Recommendations

- ✧ Antibiotic-resistant bacteria pose a danger to all of us because they are difficult to treat.
- ✧ Self-medication with antibiotics is an irresponsible way of using drugs.
- ✧ By repeatedly and improperly taking antibiotics, we are contributing to an increase in antibiotic-resistant bacteria.

Fig. 5. Do you read the enclosed leaflet?

Recommendations

- ✧ The leaflet contains important information and it is necessary to read it carefully so we can get the best results from the treatment:
- ✧ What is the drug and how is it used?
- ✧ How are the antibiotics taken?
- ✧ Duration of therapy
- ✧ How do you store the drug?
- ✧ Possible side effects

Fig. 6. Do you observe the prescribed time of the antibiotic therapy?

Fig. 7. What do you do with the antibiotic which is left after the end of the treatment?

Recommendations

- ✧ Your pharmacist can advise us on how to destroy the remaining antibiotic.
- ✧ It is not advisable to use antibiotics left from a previous treatment.
- ✧ Do not leave antibiotics for later use.
- ✧ Do not share antibiotics with other people.

Fig. 8. How often do you buy an antibiotic without a prescription?

RESULTS

It became clear from this survey that the health care professionals from Alexandrovska University Hospital JSC show a high level of knowledge and competence regarding the proper use of antibiotics.

CONCLUSION

- ◇ Antibiotic agents should only be used as the only remaining option, not the first possible drug treatment. If people follow this rule bacterial resistance will not only decrease, but it will become a much less significant health risk.
- ◇ During the course of antibiotic therapy use probiotics and vitamins, and especially - stick to the natural way of life!