THE SPREAD OF AIRBORNE INFECTIONS, IMPORTANT FACTORS IN THEIR ETIOPATHOGENESIS

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Abstract. *Epidemics of acute respiratory diseases are not uncommon in human history, and in the last century, masks have been widely used to protect against pathogens of such infections.*

Often, workers and patients of healthcare institutions need such protection. A medical mask is a medical product that is a bandage on the face, covering a person's mouth and nose. At the moment, with the global spread of a new coronavirus infection (COVID-19), unfortunately not all people are ready to wear a mask regularly. The reasons for this may be different. But the position of the medical worker in this matter is often decisive: it is his example, as well as health education work can have a positive impact on the implementation of measures recommended by Rospotreptozzar as rules for preventing coronary infection [1, 2]. To identify the attitude of medical professionals towards the use of masks as a means of preventing the spread of respiratory infections, was compiled questionnaire. The purpose of the survey: to identify how loyal doctors are to wearing masks and how they assess their effectiveness. The questionnaire was composed of 10 questions, mostly closed form, with objective component related to age, gender, health education of respondents. We interviewed 61 people who have or are currently receiving medical education. Of these, 40 respondents - aged between 18 and 25 (medical college students) and 21 people aged 30 or older (average medical staff of treatment and prevention organizations), 82% of the respondents are women, 18% - men.

Keywords: *respiratory diseases, COVID-19, mask, immunoresistance, «immunological memory».*

РАСПРОСТРАНЕНИЕ ВОЗДУШНО-КАПЕЛЬНЫХ ИНФЕКЦИЙ, ВАЖНЫЕ ФАКТОРЫ ИХ ЭТИОПАТОГЕНЕЗА

Аннотация. *Эпидемии острых респираторных заболеваний не являются редкостью в истории человечества, и в последнее столетие маски широко использовались для защиты от возбудителей таких инфекций. Зачастую в такой защите нуждаются работники и пациенты учреждений здравоохранения. Медицинская маска — это медицинское изделие, представляющее собой повязку на лицо, закрывающую рот и нос человека. На данный момент, с глобальным распространением новой коронавирусной инфекции (COVID-19), к сожалению, не все люди готовы носить маску регулярно. Причины этого могут быть разными. Но позиция медицинского работника в этом*

вопросе зачастую оказывается решающей: именно его пример, а также санитарно-просветительская работа могут оказать положительное влияние на реализацию мер, рекомендуемых Роспотребнадзором в качестве правил профилактики коронарной инфекции [1, 2]. Для выявления отношения медицинских работников к использованию масок как средства профилактики распространения респираторных инфекций была составлена анкета. Цель исследования: выявить, насколько врачи лояльны к ношению масок и как они оценивают их эффективность. Анкета состояла из 10 вопросов, в основном закрытой формы, с объективной составляющей, связанной с возрастом, полом, образованием респондентов. Было опрошено 61 человек, имеющих или получающих медицинское образование. Из них 40 респондентов - в возрасте от 18 до 25 лет (студенты медицинских колледжей) и 21 человек в возрасте 30 лет и старше (средний медицинский персонал лечебно-профилактических организаций), 82% респондентов - женщины, 18% - мужчины.

Ключевые слова: *респираторные заболевания, COVID-19, маска, иммунорезистентность, «иммунологическая память».*

Neither the first nor the second group showed a complete confidence in the effectiveness of protection against respiratory infections when wearing a mask. Thus, approximately the same number of respondents from both groups believe that the mask «can fully protect against infection by viruses and bacteria» - 10% in 1 group and 9.5% in the second. However, the majority of respondents - 75% in the first group and 85.7% in the second group - believe that the mask «helps, but not always».

From this survey, it can be concluded that respondents are aware that the usual personal protection measure - a mask - may not completely prevent viruses from entering the human respiratory tract, but can protect against entry of the infection of a person with high concentration aerosol causative. Thus, the mask is able to significantly reduce the dose of the pathogen in inhaled air - as a result, the development of infection will either not occur (insufficient for infection dose), or may flow easier. Respondents working in health care organizations are more responsible for the use of masks. Students, unfortunately, are not fully prepared to comply with the recommended rules on wearing masks.

In connection with the results obtained, we have developed recommendations on the basic rules of application of the mask. This recommendation included information on wearing a mask during an epidemic in public places, as well as the timing of replacement of disposable masks every 2 hours or as they become wet or contaminated.

The medical worker is not only obliged to comply with the recommendations of the Rospotrebnadzor on wearing masks, but also be able to justify the necessity of this measure during the pandemic of a new coresynavirin infection for their patients, colleagues, students.

From an epidemiological point of view, the ability of a doctor to conduct health education work on this issue, as well as personal example, play an important role in reducing the risk of spreading the disease. The group of airborne droplet infections (VCI) for damage to the health of the population and military personnel is the most important among infectious diseases not only of classes I and X of ICD-10, but also of all human pathologies. Children, adolescents and adults from organized groups are most at risk of infection with COV. The risk of disease in the air-droplet route of transmission of infection will increase in case of close contact, but not all people get sick, and diseases are different. This is determined primarily by the state of immune resistance of people to pathogens circulating in the collective autonomously or externally. There is always a significant proportion of the population mentioned with immunoresistance deficiency, showing a predisposition to frequent COV diseases that are genotypically and/or phenotypically determined. This share depends on the number of teams, the age of people and their living conditions and activities. The immunological imbalance is characteristic of the structures of some organs and tissues of the respiratory system of people and manifests themselves in their selectivity to infection by the pathogens of several important MOCA or a certain group of related microorganisms, or even by the pathogen of a particular species. The older people, the weaker manifestation of secondary immunodeficiency, because in natural infections and/ or revaccinations there is accumulation of «immunological memory» by the body. The most significant anthropogenic UMVs for these risk categories are influenza A and B, other acute respiratory infections (non-influenza IOPs) and out-of-hospital pneumonia; streptococci with aerosol transmission mechanism (angina and scarlet); «childhood» infections (measles, epidemic mumps, rubella, chickenpox, whooping cough); meningococcal infection and diphtheria. The morbidity of most of these WMIs is several times higher than that of the general population and even in comparable age groups, approaching some forms of childhood morbidity.

In this context, it is interesting to analyze the characteristics of the epidemic process of these infections in the troops (in the navy) and their immunoprophylaxis status in general and for individual nozoological forms, as well as in comparison with the civilian population.

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