RESISTANCE OF TRICHOMONADS AND OTHER PATHOGENS OF SEXUALLY TRANSMITTED INFECTIONS (STIS) TO ENVIRONMENTAL FACTORS

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Sexually transmitted infections (STIs) have a significant impact on sexual and reproductive health all over the world, and are among the 5 major disease categories for which adults seek health care. According to WHO estimates every year 500 million of people acquire one of four STIs: chlamydia, gonorrhea, syphilis, and trichomoniasis. Untreated and persistent STDs can cause severe complications, male and female infertility, prostatitis, inflammatory diseases of the uterus and appendages, epididymitis, and genital tumours. In order to determine the likelihood of domestic route STIs transmission, we analysed the resistant of STI to environmental factors according to available literature. Of a great practical importance is the study of Trichomonas vaginalis stability in certain environmental conditions, efficiency of antiseptics and so on. Previously it was believed that Trichomonas are extremely stable in the environment, especially in water reservoirs, but currently it is not supported. Trichomonas vaginalis is very sensitive to changes in osmotic pressure and in fresh water of different reservoirs it dies within 15-60 minutes, rapidly loses its viability at 45-50°C and at 60°C dies immediately. These protozoa can not tolerate drying, but can remain viable for a long time in a humid environment, especially on cotton fabrics and sponges, they can aslo tolerate low temperatures. Chlamydia is quite sensitive to the action of short- and long-wave ultraviolet radiation, as well as high temperature. Thus, at 37°C extracellularly located Chlamydia loses its infectivity within 24-36 hours. Concentrated suspension of Chlamidia is inactivated within 1 minute at 95-100°C. At the same time, the ability of the infected material to maintain its infectiveness within 2 days at 18-19°C was established. Agents of syphilis are susceptible to different environmental factors. They rapidly die at drying. Outside the human body in biological substrates, on household items pale treponema retains its infectiousness before drying. In the external environment at 40-42°C they are killed within 3-6 hours, and at 55°C within 15 minutes. In the whole blood or serum at 4°C microorganisms remain viable for a day, which is important for the blood transfusion. Treponema pallidum is resistant to low temperatures. It is very sensitive to chemical substances. Different antiseptics are lethal for syphilis agent. Causative agent of gonorrhoea is not stable in the environment. Outside the human body gonococci are unstable and die after drying of the substrate in which they reside. Neisseria does not tolerate cooling, and as the temperature rises to 56°C it dies within 5 minutes. Almost immediately they die in soapy water, are sensitive to preparations of antibacterial and antiseptic solution.

Prevention of the STIs is important in maintaining of reproductive health of the sexually active population. Majority of STIs pathogens can survive long enough in a warm and humid environment, biological substrates, as well as at low temperatures, which results in probable infection through domestic route. At the same time, sensitivity of microorganisms to drying, heating and many antiseptics, this predisposes the non-specific ways of STIs prevention.