

Conference Paper

Regional Aspects of Nosocomial Infection As a Medical and Social Problem

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Abstract

Prevention of nosocomial infection (NI) is an important medical and socioeconomic problem. And though certain organizational and practical measures are implemented in Russia every year to reduce NIs, the problem is still relevant from medical and social points of view. The risk of infection are both for patients and medical workers. In Russia, the minimum economic damage caused by NIs is 2.5–5 billion rubles annually. According to the Office of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare in the Republic of Mordovia, the total incidence of NI in the region is at a low level. The incidence rate was 0.01 per 1000 patients in hospitals. The dynamics of the last five years demonstrates a decrease in hospital-acquired infections. In the dynamics of the last five years, incidence rates of purulent-septic infections of newborns and postpartum women, postoperative purulent-septic complications and post-injection complications had an unstable downward trend. Thus, purulent-septic infections of newborns and postpartum women and postoperative infections are dominated in the structure of nosocomial infections. Analysis of dynamics of morbidity in recent years in the Republic of Mordovia suggests that the measures taken to prevent NI are quite effective and are manifested with consistently low rates.

1. Introduction

A nosocomial infection (NI) is a clinically recognized infectious disease that a patient acquires in the hospital or after seeking for medical care there, as well as an infection of hospital staff because of the work in this medical facility [1].

Prevention of NI is an important medical and socioeconomic problem. And though certain organizational and practical measures are implemented in Russia every year to reduce NIs, the problem is still relevant from medical and social points of view. At risk of infection are both patients and medical workers.

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Over the last decades, there are new factors that contribute to NIs. The deterioration of the socioeconomic conditions, work in clinical settings with limited funding, significant increase in the number of resistant to antibiotics of the latest generation of hospital strains, etc., are among them. According to official statistics, from 50,000 to 60,000 cases of hospital infection are registered in Russia every year, that is, 5–10% of patients in hospitals. However, according to special studies, this figure is about 40 times higher because of the underreporting of hospital-acquired diseases. NIs aggravate the general condition of patients and make them stay in the hospital on average 6–8 additional days. According to WHO, the mortality rate in the group with NI is in 10 or more times higher than that among patients without NI. In Russia, the minimum economic damage caused by NIs is 2.5–5 billion rubles annually [2].

Work objective is to analyze the incidence of nosocomial infection in the Republic of Mordovia in the last five years (2011–2015).

2. Materials and Methods

The information of the Office of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare in the Republic of Mordovia, presented in the State Report on the Sanitary and Epidemic Situation in the Republic of Mordovia, was analyzed.

3. The Findings and the Discussion Thereof

According to the Office of the Federal Service for Supervision of Consumer Rights Protection and Human Welfare in the Republic of Mordovia, the total incidence of NI in the region is at a low level. So, in 2015, 45 cases of nosocomial infection were reported, against 56 cases in 2014. The incidence rate was 0.01 per 1000 patients in hospitals. The dynamics of the last five years demonstrates a decrease in hospital-acquired infections (with the exception in 2013, when the number of reported cases of NI was slightly higher than in 2012).

It should be noted, however, the consistently low incidence is primarily due to the underreporting of hospital-acquired diseases: Nosocomial infections of the urinary tract, diseases associated with catheterization of blood vessels, etc., are still not registered [3].

The structure of nosocomial infections in the republic in 2015 is as follows: in spite of a clear downward trend for the last year of the analyzed period purulent-septic

infections (PSI) of newborns and postpartum women continue to occupy the leading position (2015 – 44.4%, 2014 – 57.1%), postoperative infections are in the second place, post-injection complications take the third place and then all other infections (Figure 1).

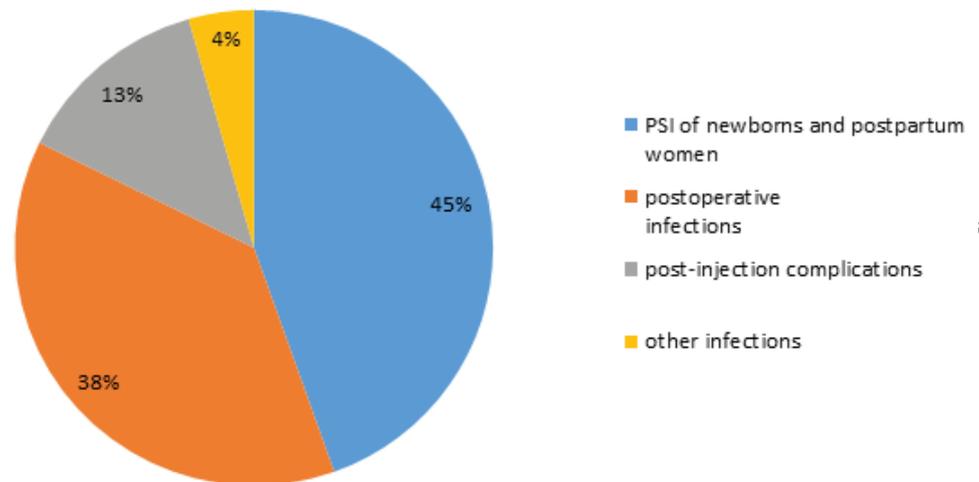


Figure 1: The structure of nosocomial infections in the Republic of Mordovia in 2015.

In 2015, 20 cases of nosocomial infections in maternity hospitals were reported. In 2014, this figure was 31 cases and in 2011, 43 cases. Taking intrauterine infections into account, the incidence rate among newborns was 46.0 per 1000 live births. In 2012, four cases of sepsis among the newborns were registered, one of which resulted in death. In 2015, one case of sepsis and two of osteomyelitis were revealed. No deaths were registered. During 2011–2015, group cases of nosocomial purulent-inflammatory diseases in hospitals were not registered. In the dynamics of the last five years, incidence rates of purulent-septic infections of newborns and postpartum women, postoperative purulent-septic complications and post-injection complications had an unstable downward trend (Figure 2).

The Resolution of the Chief State Sanitary Doctor of Russia indicates an extremely low level of registration of the incidence of NI, deterioration in the quality of sterilization of medical equipment, the poor quality of disinfection in hospitals. In this regard, considerable work has lately been done to improve the logistics of health facilities and create the necessary conditions for compliance with the anti-epidemic protocol, as well as modern medical technologies for the protection of patients and staffs are introduced into the practice of the republican public healthcare system.

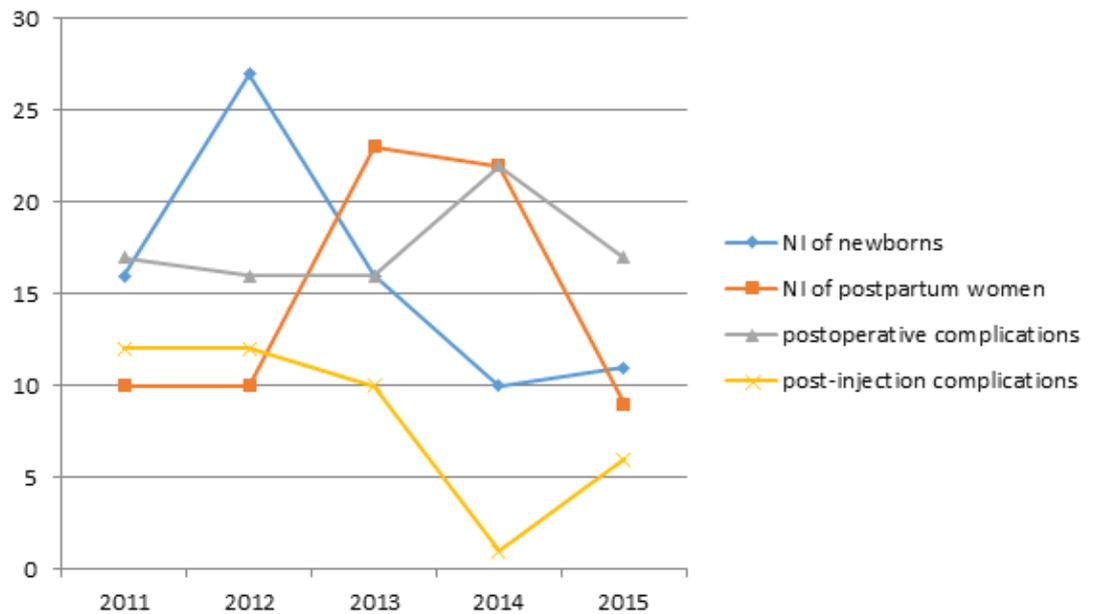


Figure 2: The incidence rates of nosocomial infections in 2011–2015.

4. Conclusion

Thus, purulent-septic infections of newborns and postpartum women and post-operative infections are dominated in the structure of nosocomial infections. Analysis of dynamics of morbidity in recent years in the Republic of Mordovia suggests that the measures taken to prevent NI are quite effective and are manifested with consistently low rates.

Acknowledgements

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