

**THE ISSUE OF EARLY CONGENITAL SYPHILIS MORBIDITY**

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The authors provide an overview of the literature on the incidence of syphilis during pregnancy and the incidence of early congenital syphilis in different countries. The risk factors for congenital syphilis were determined: low-income families, the onset of sexual life earlier than at 17 years, pregnancy at the age of 14 years and earlier, syphilis and other STIs in the anamnesis, the HIV-positive partner, stillbirth in anamnesis. The authors note that late therapy of pregnant women, with syphilis increases the number of miscarriage cases, stillbirth and birth of a child with syphilis. The modern preventive technologies must be implemented among the actions aimed to reduce the incidence of congenital syphilis in the Russian Federation.

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The health condition of mother and child is an actual problem for world health care. According to WHO experts, the damage caused by congenital syphilis is still underestimated, because of 270 000 cases recorded worldwide annually. Annual natal loses (460 000 per year) are closely connected to this infection due to miscarriage. Syphilis is a possible cause of 270 000 annual low weight children birth and 270 000 annual premature births (WHO, 2004) [1].

A review of researches (carried out in 70–80s of XX century) released by S.K. Hira et al. (1990) demonstrated a wide range of seropositive among pregnant women attending antenatal clinics – from 0,03% in Scotland to 16,0% in Brazil [16]. In WHO database of STIs prevalence and incidence researches the proportion of seropositive among pregnant women is as follows: in Africa – from 0,2% (Burkina Faso) to 8,4% (South Africa); in America – from 0,09% (Guatemala) and 5,8% – (Haiti); in Southeast Asia – from 0,8% (Indonesia) to 2,5% (Bangladesh); Europe from 1,5% (Finland) to 1,7% (Azerbaijan); in the Western Pacific – from 0,1% (the Republic of Korea) to 7,1% (Papua New Guinea). However, WHO experts believe that data from published studies has a number of drawbacks, including the lack of data from many countries, the predominant inclusion of the urban population and women attending antenatal clinics, also the small samples, as a result the data of seropositive among pregnant is underestimated [1].

According to J. Valderrama et al. (2004) syphilis morbidity among pregnant women is in Peru 3,1%, 6,2% in Paraguay; the incidence of congenital syphilis – 1,4 per 1,000 new-born in El. Salvador, 12,0 per 1,000 new-born in Honduras [20]. Kwiek J.J. et al. (2008) diagnosed syphilis in 198 (5%) cases among 3824 Malawi women on the third trimester of pregnancy. Researchers point to the need

to increase prenatal screening for syphilis all pregnant, researchers identify factors that influence the incidence of congenital syphilis: an underestimation of this problem, politicians, policy-makers, inadequate access to antenatal care and screening, discrimination surrounding the disease, sexually transmitted infections [17]. C.S. Rodrigues et al. (2004) while examining 3047 pregnant women in Brazil discovered syphilis in 1,7%. The authors identify the incidence of risk factors for congenital syphilis: family income below one minimum wage; sexual initiation to 17 years, pregnancy before the age of 14; syphilis and other STIs or stillbirth in past medical history; HIV-positive partner. The authors note that only 43,0% of women had six or more prenatal visits, and only 3,0% had one serological screening for syphilis during the first trimester of pregnancy and re-screening test during the third trimester. [18] Epidemic of congenital syphilis in Baltimore took place against the backdrop of a sharp decline in the incidence of syphilis in the United States. The maximum incidence rate of congenital syphilis in the entire country (107 cases per 100 thousand. New-born) was recorded in 1991. By 1996, the incidence of congenital syphilis in the United States decreased by 72,0% and amounted to 30 cases per 100 thousand new-born. In 1996, the incidence of congenital syphilis in Baltimore, was nearly 10 times more the national rate. In 1996, the incidence of congenital syphilis among African Americans in Baltimore and in the whole country amounted to 564 and 128 cases per 100 thousand new-born respectively. Clearly pronounced association among the incidence of congenital syphilis and race suggests the existence of certain factors (such as quality of health care), which could contribute to the development of the epidemic, mainly affecting the black population [2].

D.A. Gust et al. (2002) analyzed 14,627 cases of congenital syphilis in the United States, including 760 stillbirths, noted that, despite the decline in the incidence of congenital syphilis, the rate between mortality and incidence of congenital syphilis remained unchanged. This allowed the authors to conclude that the mortality associated with syphilis would continue to be an important issue of national health care [15].

During the period from 1993 to 1997, the time of maximum growth in the incidence of syphilis in Russia: in the Urals, Siberia and the Far East the incidence of syphilis among pregnant women increased 10,9 times, and their share amounted to 7,8% of the total women with this diagnosis. The number of children with congenital syphilis in the region during this period increased from 33 to 268 cases (an increase of 8,1 times) [4]. The researchers note that one of the negative trends in the epidemiology of syphilis between pregnant women is the prevalence in this group early latent syphilis. So, during the pilot project held in Russia on surveillance for the registration of cases of congenital syphilis it was found that women, who gave birth to children with congenital syphilis, in 78,0% of cases early latent syphilis was diagnosed.

Since 1999, in Russia there has been a decline in the incidence of congenital syphilis. So in 1999, 743 cases of congenital syphilis were reported, in 2002 – 619, in 2003 – 506, in 2013 – 131. But even isolated cases of congenital syphilis are the extraordinary phenomena for public health, because the due time diagnosis and treatment of infected pregnant possible to prevent fetal infection [19].

The ongoing registration of cases of congenital syphilis is the mark of the medical care quality for the pregnant women, the state of public health and the indicator reflecting the level of cooperation between obstetricians and gynecologists, dermatologists, pediatricians, and the effectiveness of the disease control activities [10]. According to the authors, among pregnant women with syphilis, untreated or inadequately treated, there is a high incidence of fetal death or stillbirth [14]. Delay of the therapy leads to inadequate, late treatment and hence increases the possibility of fetal infection, increases the probability of miscarriage, stillbirth and birth of a child with a syphilitic infection [9].

Thus, the current epidemiological situation dictates the need for urgent and effective prevention of syphilis among pregnant women and newborns.

Currently there are drastic socio-economic changes worldwide, as well as in Russia, that result in the emergence of new nuclear groups, such as refugees, immigrants, the unemployed and vulnerable groups, including orphans and children deprived of parental care, which requires the development of new indicator values for analysis and adequate preventive measures, as well as the development and introduction of modern medical technologies [6, 7, 11, 12].

So, to improve the quality in industrial systems in 1931. V. Shihart proposed the scientific method, which he called a cycle plan – do – check – act (PDCA). The researchers believe that the improvement of the quality approaches have to be designed through a planning change (plan) the fulfillment of the plans (do) evaluation of the effect (check) and wide introduction in practice (act). The effectiveness of these approaches in the clinical practice was proved by many researchers [3, 8, 9, 13].

The analysis of published data shows that, despite of the numerous studies devoted to the problem of syphilis, they deal mainly tendencies of dynamics and structure of morbidity. At the same time the comparative studies, taking into account social change and geographical features of patients' living and modern organizational strategies of prevention and control measures at the level of the federal subject needed to stabilize the epidemic. Research in this regard is of the socio-economic importance.

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