CHICKENPOX DISEASE AND ITS EPIDEMIOLOGY, INCIDENCE RATE, CLINICAL COURSE FEATURES

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Abstract. Chickenpox is a highly contagious infectious disease caused by the Varicella zoster virus, primarily affecting children aged 3 to 12 years. The disease is transmitted via airborne droplets and exhibits seasonal prevalence, with higher incidence in winter and spring. Clinically, chickenpox often manifests as a mild to moderate illness characterized by fever, weakness, and a characteristic skin rash. While most cases resolve without complications, some children may experience secondary bacterial infections, pneumonia, or neurological complications such as encephalitis. Prevention through vaccination is the most effective strategy, with immunization recommended from 12 months of age. Comprehensive preventive measures including vaccination campaigns, hygiene promotion, and public education are essential to control the spread of the disease and protect community health.

Introduction Chickenpox (Varicella) is an infectious disease caused by the Varicella zoster virus, which belongs to the herpes virus family. It is mainly widespread among children. It is common for the disease to first occur during childhood, mostly between the ages of 3 and 12. The disease spreads through airborne droplets and is highly contagious. Chickenpox usually has a mild to moderate course, but in some cases, complications may develop. Chickenpox is widespread worldwide. According to medical observations, 90–95% of people contract chickenpox during childhood. Epidemiologically, the disease shows a seasonal pattern—occurring mostly in winter and spring months. The main source of infection is an infected person. The infection spreads through the air via aerosol droplets. Also, individuals with herpes zoster (shingles) can be a source of the virus. The likelihood of transmission among children in contact is 85–90%. In community settings (schools, kindergartens), the risk of infection is 2–3 times higher. About 70–80% of chickenpox cases occur in children aged 3–12.

In children, the disease usually manifests in stages: **Prodromal (early) stage (in 30–40% of children):** Fever (38–39°C) in 85–90% of cases ,Weakness, headache in 50–60%, Decreased appetite in 40–45%, Sometimes mild joint pain, reduced physical activity. **Rash (exanthem) stage:** Rash appears on the skin in 100% of children. The first rashes appear on the face and head and spread to other parts of the body within

1–2 days, Full development of the rash lasts 3–5 days, 70–80% of children have numerous rashes (over 100), Blisters fill, itch, and then crust over. **Healing and cleansing stage:**Dry crusts fall off naturally within 7–10 days, Complete recovery occurs within 10 days in 90% of children, In 5–10% of cases, hyperpigmentation or mild scarring may remain at rash sites.

Clinical symptoms/conditions and occurrence percentage:

Symptom/Condition	Percentage (%)
Fever (38–39°C)	85–90
Skin rash (pustular form)	100
Itching	90–95
Weakness, headache	50–60
Loss of appetite	40–45
Secondary bacterial infection	5–7
Pneumonia	1–2
Encephalitis, meningoencephalitis	0.1–0.3
Herpes zoster (reactivation)	10–20

In most cases, chickenpox runs a mild course, but some children may develop complications:

- Secondary bacterial infections (staphylococcus, streptococcus)
- Chickenpox pneumonia—mostly in children with weakened immunity
- Encephalitis—very rare
- Herpes zoster—the virus does not leave the body, remains dormant in nerve ganglia, and may reactivate in older age.

Clinical diagnosis is mainly based on the skin rash and symptoms. Laboratory tests (PCR, ELISA) provide additional information.

Since chickenpox is highly contagious, prevention is important. The main directions for improving prevention are:

- Vaccination is the most effective way to prevent the disease in children. Vaccination is recommended starting at 12 months of age.
- Organizing vaccination campaigns in schools and kindergartens.
- Promoting correct information against misconceptions about vaccination.
- Temporarily excluding sick children from kindergartens and schools.
- Monitoring those in contact with patients.
- Promoting hygiene rules.
- Developing epidemiological monitoring and laboratory capabilities.
- Regular training of medical staff.
- Improving information systems.
- Ensuring proper nutrition, a healthy lifestyle, and psychological stability for children.

- Providing additional care for children with chronic diseases.
- Strengthening educational and awareness campaigns.
- Informing parents and the community about chickenpox.
- Properly explaining the importance of vaccination.

Conclusion. Chickenpox remains one of the most common infectious diseases among children, particularly affecting those between the ages of 3 and 12. Despite its generally mild clinical course, especially in healthy children, chickenpox should not be underestimated due to the potential for serious complications such as secondary bacterial infections, pneumonia, encephalitis, and in some cases, the later reactivation of the virus as herpes zoster (shingles). These complications, although less frequent, can have a significant impact on a child's health and development, particularly in those with weakened immune systems or underlying chronic conditions. Epidemiological data indicate that over 90% of individuals contract chickenpox in childhood, highlighting its high transmission rate and the urgent need for effective preventive strategies. Seasonal peaks in transmission during winter and spring further emphasize the importance of proactive planning in healthcare and educational institutions. Prevention through vaccination remains the most effective and reliable method of controlling the spread of the disease. Universal immunization starting at 12 months of age, coupled with public awareness campaigns, can drastically reduce the incidence of chickenpox and its associated complications. In addition, targeted measures—such as excluding infected children from schools and kindergartens during the infectious period, monitoring exposed individuals, promoting hygiene practices, and strengthening the capacity of epidemiological surveillance and laboratory diagnostics—are crucial in minimizing outbreaks. Furthermore, continuous education and training of healthcare professionals, improving digital health information systems, and engaging parents and communities through health literacy initiatives are essential components of a comprehensive disease control strategy. Special attention should also be given to the nutritional and psychological well-being of children, especially those with chronic illnesses, to improve their resilience against infections.

In conclusion, while chickenpox may often be seen as a routine childhood illness, its public health implications warrant serious attention. Through coordinated efforts in vaccination, surveillance, education, and healthcare preparedness, it is possible not only to reduce the burden of this disease but also to build a healthier and more informed society.

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