From affection to infection: Understanding the risks of kissing infants: A review

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ABSTRACT

Although it's a typical and loving gesture, kissing newborns carries a considerable danger because it could spread infections. Due to immature immune systems and incomplete vaccination histories, newborns are especially susceptible to respiratory viruses like influenza and respiratory syncytial virus (RSV), bacterial pathogens like Streptococcus pneumoniae and Group A Streptococcus, and cytomegalovirus (CMV). Despite the risks, many parents and other caretakers are ignorant of them and frequently permit intimate contact with guests who might be unintentionally carriers of infectious pathogens. This overview looks at the several infections that can spread by kissing, the possible effects on a newborn's health, and the precautions experts advise taking to reduce the dangers.

Keywords: kissing, infants, pathogens, risks, microbes.

Introduction

Kissing a child by a close relative, especially a parent, is an instinct and part of the bonding process. The transmission of pathogens to newborn babies through kissing is significant due to their developing immune systems. Kissing newborn babies may pose a significant risk to their health. Many parents are unaware of this and the potential consequences for newborns.[1] The following are some of the important pathogens that may be encountered.

Herpes simplex virus 1

If a person kissing a child has active Herpes simplex virus type 1 (HSV-1) anywhere on the skin, especially on the lips (cold sores), there is a significant risk of transmission.[2]However, it must be appreciated that individuals may be asymptomatic carriers of the virus and still transmit it.

Cytomegalovirus (CMV)

CMV is also a member of the herpes family of viruses. Most people are infected at some stage, with the virus remaining latent but still transmissible. Transmission may occur with contact with any body fluid, including saliva, via kissing and urine. [3] The clinical features in a child range from mild (flu-like symptoms including fever, cough, and sore throat) to severe, especially in newborns who may develop encephalitis and/or a hearing deficit.[4]

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Respiratory Syncytial Virus (RSV)

RSV is very contagious, and most children have been infected by the age of two years. The features resemble a common cold: runny nose, cough, and mild fever. It may be transferred by physical touch, including kissing, and through droplets released by coughing and sneezing. It can also survive on surfaces (e.g., toys) for several hours. Premature infants, babies under six months old, and especially those with compromised immune systems, are most vulnerable to the severe consequences of RSV infections and bronchiolitis.[5,6] A vaccination against RSV is available.

Influenza virus

This respiratory virus is easily transmitted from respiratory secretions and droplets, such as coughing, and especially during the active phase of an infection. Infants are more vulnerable to serious influenza-related illnesses because of their immature immune systems and lack of previous immunity.[7] Childhood features include cough, sore throat, and fever with poor feeding.

Varicella-Zoster Virus (VZV)

This is another herpes virus that causes chickenpox and remains dormant in the nerve ganglia. Under certain circumstances, the older person or immunocompromised (especially with HIV) may reawaken and cause shingles. Infection may be transmitted through saliva and droplets and from the blisters of shingles. Hence, the virus may pass to a young child from all of these sources.[8] However, shingles are rare in children, but chickenpox is common. It may become serious if the latter occurs in the first year of life.

Epstein-Barr virus (EBV)

This is yet another herpes virus and one of the most common worldwide. It is sometimes called the "kissing virus" and is easily transmitted by body fluids, especially saliva. EBV commonly occurs in children: usually, it is a mild illness, similar to a common cold or mild influenza, and resolves spontaneously. Rarely, there are serious sequelae, including meningitis and encephalitis.[9]

Human papilloma virus (HPV)

This has over 100 variants and should not be confused with the herpes simplex virus. It is usually a sexually transmitted infection but can affect children. Kissing is thought to provide a lower risk of HPV infection than more intensive physical contact, including hand-to-hand contact, during sexual activities. Still, it is acknowledged as a possible mode of transmission, nevertheless.[9] Family members can become hetero-inoculated via kissing and other non-sexual interactions.[10] The manifestations among infants include condyloma acuminatum, genital warts, and mouth lesions.

Human metapneumovirus (hMPV)

Close contact with an infected person, such as kissing, touching, or shaking hands, is the primary way that hMPV is transmitted between infected people. Most children who acquire the infection are aged under five years. The symptoms are cold-like and usually last no more than five days. However, a child under the age of twelve months is at risk of serious respiratory problems.[11]

Streptococcus pneumoniae

This bacterium is a common cause of pneumonia and meningitis in children under five years, especially in newborns, because of their immature immune systems. It can be spread through direct contact, including kissing and saliva droplets.[12]

Streptococcus pyogenes

Asymptomatic carriage of Streptococcus pyogenes in the pharynx and on the skin is common. Transmission by kissing, sneezing, or coughing may occur from one person to another. Infection is more common in newborns because of their immature immune systems. It can result in meningitis, pneumonia, or sepsis, among other dangerous illnesses.[13]

Staphylococcus aureus

Transmission of this bacterium usually happens through direct contact with contaminated skin or surfaces rather than by kissing. Asymptomatic carriage is common. Due to their underdeveloped immune systems, newborns are more susceptible to S. aureus infections.[14] Consequences of infection include impetigo and scalded skin syndrome, as well as more severe manifestations such as pneumonia.

Haemophilus influenzae

Newborns can contract Haemophilus influenzae from respiratory droplets and by kissing. Asymptomatic carriers may also transmit this bacterium.[15] The ears, eyes, and sinuses are most commonly infected. Meningitis is a feared consequence with a high mortality rate.

Conclusion

The act of kissing newborns and infants, especially those under five years old, carries a risk of transmitting a variety of pathogens. This brief review has highlighted that pathogens such as herpes, RSV, influenza, and various bacteria can be transmitted through saliva and respiratory droplets exchanged during kissing and close contact. Awareness among parents, caregivers, and the general public about these risks is crucial for protecting newborns, especially during their early months of life when their immune systems are still developing. Simple measures like frequent handwashing, avoiding close contact when sick, and refraining from kissing newborns on the face or lips can significantly reduce the likelihood of transmission. Healthcare providers play an important role in educating families about these precautions. Research should continue to explore effective communication strategies and interventions to promote safe practices around newborns and reduce the incidence of preventable infections transmitted through close contact.

There is a mnemonic that may help prevent the transmission of infection to babies: ***THANKS***, i.e. **T**hink**H**ands **A**nd **N**o **K**isses.

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